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1981
DECEMBER
MONTHLY LETTER

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SEASON'S
GREETINGS

HOLIDAY GREETINGS

Here it is the month between Thanksgiving and Christmas and we're forced into sending a December Newsletter. Between being on the road, busy with other matters and general malaise, we're late again this year, so this issue will be the last for this year of 1981, which I'm positive had no more than six or eight months in it.

Hope that you all enjoyed a pleasant and full Thanksgiving. When you really look at it, there aren't many in this country who should not be thankful for the opportunity to pursue life, happy or unhappy, in this country, rather than elsewhere in the world.

The best wishes from all the Department of Livestock employees to you and yours during this Christmas Season.

PROPOSED CHANGES IN THE BRUCELLOSIS UM&R

Since I took this job in 1978, I've been privileged to serve on the Brucellosis Advisory Committee of the U. S. Animal Health Association. In Committee deliberations during this time, I have felt that there have been some very constructive proposals made for change in the Uniform Methods and Rules for Brucellosis Eradication.

The adoption of the reduced dose of Strain 19 vaccine is probably the greatest change and will result in the largest modification of the program. Some of the changes in criteria for testing in the various state classifications in order to move cattle were very worthwhile. Attempts at plugging leaks, of infected or exposed cattle, into the channels of commerce were admirable, but needed some leavening of practicality.

Starting with the midyear USAHA Brucellosis Committee Meeting in Denver in June, a blatant shift in the Federal approach was evident that was an unwanted and unwarranted return to the over-restrictive, overly dictatorial approach of the 50's and 60's.

In proposals for change of the UM&R, language was inserted and efforts were made to derail the changes already under way. This effort culminated in the Committee Meeting at the annual USAHA Meeting in St. Louis in October.

There, another modification of the proposals was handed out, APHIS changes were read into the text, and the Committee was asked to adopt this and a supplemental 16 point proposal with little prior opportunity for study.

In these documents, states which will qualify as Free and Class A are subjected to more stringent requirements than states with Moderate (Class B) and Heavy (Class C) infection. It seems that there is a federal preoccupation with restricting low incidence states while granting concessions to the heavily infected areas.

It seems to be the federal mentality to regard industry and the states as incompetent and dishonest, in approach and ability to maintain a low level or to forge on to elimination of infected herds. The industry, it seems, cannot comprehend what is best for itself, according to federal lights.

It is very disheartening to watch the honest efforts of many states and industry organizations go down the drain, while the "great white fathers" in Hyattsville dictate what is best for the rural people while ensuring that the brucellosis program endures another 50 years.

In the proposals sent out on October 26 by Dr. Becton there are a number of highly distasteful restrictions, some of which Montana cannot live with nor should industry accept.

1. Handling of a suspect disclosed in market testing relegates the balance of the draft to the status of reactor cattle as far as movement is concerned.

2. Throughout the proposals the time limits imposed on procedures used in reactor, contact and adjacent herds are unrealistic and unless they are able to be modified by the station epidemiologist, the limits are unworkable.

3. APHIS fails to define "domestic livestock" and "other species" but has written in phrases that prevent a state from attaining free status as long as infection is present in "other species". Montana would have a real problem due to Biotype I infection in Yellowstone Park elk and bison and incidental infections in other species, such as horses, dogs, etc.

4. APHIS again has adopted the stance that all card test positive animals are infected and require tests of the herds of origin. This particular fallacy has plagued Montana and its vaccinated cow population since the first use of the card test in the late sixties.

5. There are unrealistic requirements of subjecting adjacent and epidemiologically traced herds to quarantine and two negative tests 6 months apart, even if the first test is negative. I for one cannot conceive of quarantining and maintaining a quarantine on a known negative herd.

6. Great stock is placed in the faulty MCI (backtagging) program as one of the measures of maintaining the state's status. This program over the years has been highly inaccurate because of great inaccuracy in tracing ownership of titered animals.

7. States in which all meat inspection is a federal responsibility will be penalized if collection of blood and identification at slaughter falls below prescribed

levels. How can a state require cooperation of Meat Inspection when APHIS (another federal agency) cannot obtain that same cooperation?

8. The federal government still fails to honestly address the problem of vertical transmission of brucellosis from an infected dam to its heifer offspring. The method of handling heifer calves in infected herds has not changed in forty years and APHIS and its predecessors have been aware of the problem since 1916.

9. Unnecessary "S" brand requirements are trying to be placed on slaughter cattle that will accomplish nothing and cost industry large amounts of time and money.

The costs and inconvenience to industry have been ignored, in these proposals, and it is very hard to cast APHIS in the role of an agency interested in eliminating a problem.

The changes in UM&R proposals have been so rapid and varied that it is difficult to get a lucid synopsis out to you practitioners, but with this latest turn of events, we feel that it is important that you be aware of the changes.

Due to costs, we cannot send out a blanket mailing of the proposals, but if you are interested in wading through them, please let me know and we'll get you a copy.

NEWSLETTER SURVEY

So far we have received a fair number of responses to our Newsletter Survey that was requested by the Governor's Office. The consensus seems to be so far that you prefer monthly mailings. There have been several suggestions as to content; one of the most frequent is for case histories of interest to be presented.

If any of you have such cases, I'll certainly be willing to get them in the letter as space permits.

One of the most interesting that I can think of at this time is one of Monensin toxicity in feedlot cattle.

At any rate, I appreciate your interest and comments.

Thanks,

BRAD

VACCINATION OF HEIFER CALVES

Here it is the season to be jolly and vaccinate heifer calves, so please note the procedure and be careful since now you confuse our "smart" typewriter if you foul up.

1. Poke the needle in a site of your choice on an eligible heifer calf and deposit vaccine.

2. Tattoo the Right Ear of the heifer.

3. Place an orange vaccination tag in the Right Ear.

4. Make out vaccination certificate recording the vaccination tag numbers used; also make names and addresses legible.

5. Give owner one copy.

6. Send Helena office one copy.

7. Keep one copy yourself.

One of these days, if the printer ever gets off dead center, you might finally receive one of the most intelligent advances in record keeping that has been devised. This is all due to Dr. Ray Randall and contributing advice from Dianna Hultman, our Administrative Secretary.

In practice I was never smart enough to decide that trying to keep four sheets of paper in a pad and three carbons from blowing in the occasional breezes that we have on the east side of the mountains was a poor way of operating. I always just used big rocks (of which we had several) and sent my dog after the pieces that blew away.

At any rate, one of these days, with all deliberate speed, you might have some new vaccination certificates that will save you a considerable amount of irritation.

DIAGNOSTIC LABORATORY NEWS

By: B. Kraft

I. Accessions received in October 1981:

	October 1981	October 1980	% change
BOVINE	129	153	-15.68%
EQUINE	42	36	16.66%
PORCINE	22	26	-15.38%
OVINE	8	8	
FELINE	60	18	233.33%
CANINE	71	93	-23.65%
AVIAN	7	4	75.00%
WILDLIFE	27	41	-34.14%
MISC.	19	37	-48.64%
TOTAL	385	416	-7.45%

II. Serology

A. Brucellosis (all species)total sera -- 18,844 sera; 8 positive
   1. Brucellosis routine tests -- 11,751 sera; 2 positive
   2. Quarantine herd tests -- 288 sera; 4 positive
   3. Slaughter samples -- 6,805 sera; 2 positive
   4. Seminal plasma-- Brucellosis -- 15 negative

B. Brucellosis CF tests -- 186

C. Leptospirosis (all species) -- 202 sera (422 L. pomona only
   1. L. pomona -- 31 positive
   2. L. hardjo -- 10 positive
   3. L. icterohemorrhagia -- 37 positive
   4. L. grippotyphosa -- 11 positive
   5. L. autumnalis -- 17 positive
   6. L. canicola -- 4 positive

D. Bluetongue -- 758 sera; 14 positive

E. Anaplasmosis -- 871 sera; 10 positive

F. IBR -- 76 sera; 17 positive

G. BVD -- 69 sera; 12 positive

H. PI_3 -- 12 sera; 1 positive

I. BLV -- 120 sera; all negative

J. EIA -- 286 sera; 1 positive

K. Pseudorabies -- 261 sera; Routine - 131 negative
   Slaughter - 130 negative

L. Feline Leukemia Virus -- 8 sera; 4 positive

M. Mare Pregnancy Test -- 15 sera; 6 positive

III. Rabies

A. 73 requests
   1. Human exposure
      a. 2 positives
         1. Equine - Daniels county
         2. Feline - McCone county
      b. 28 negative
   2. No human exposure
      a. 8 positives
         1. 2 feline - Daniels and Carbon counties
         2. 3 bats - Lincoln, Custer and Sanders counties
         3. 3 skunks - Phillips and McCone (2) counties
      b. 35 negative

IV. Bacteriology

A. Total - 154 accessions processed resulting in 172 isolates.
B. Antibiotic sensitivities were run on 147 isolates.
C. FAT (clostridia) -- 7 bovine cases
   1. Cl. novyii - 1 positive
   2. Cl. chauvoei - 2 positive
   3. Cl. septicum - 1 positive
   4. 3 negative
D. Salmonella dublin -- 3 bovine cases
   Salmonella typhimurium -- 1 bovine case
E. Brucella
   1. Five sets of tissues representing three herds were cultured with negative results.
   2. Five milk samples from five reactor cows were cultured. Three of the five were positive for Brucella abortus, Type I.

V. Virology

A. Virus isolation attempts
   1. Bovine - 13 cases
      a. 2 positive (IBR and BVD)
      b. 11 negative
   2. Porcine - 6 cases; all negative
B. Fluorescent antibody tests
   1. Bovine
      a. IBR - 1 negative
      b. BVD - 15 negative
   2. Porcine
      a. TGE - 6 negative
      b. PRV - 2 negative

VI. Electron Microscopy

A. Porcine - 3 cases; 1 positive coronavirus
B. Canine - 3 cases; 1 positive parvovirus

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NOVEMBER
MONTHLY LETTER

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ADMINISTRATOR
&
STATE VETERINARIAN

ENDRIN

All veterinarians should be aware of the problems that might occur with livestock that might accidentally graze on endrin treated wheat stubble.

If clients have wheat stubble that has been treated, they should be advised not to graze that forage. There is no allowable tolerance for endrin in feed-stuffs and consequently, animals that might graze on contaminated forage might accumulate levels of the chemical that could result in condemnation of carcasses.

As the label on Endrin states livestock should not be pastured on forage treated with that substance for one year.

This department does not condone misuse of any agricultural chemical and would be unable to prevent quarantine of livestock in which violative residue levels were found.

IMMUNOLOGIC FIELD TRIALS

Ribi Immuno Chem Research Inc., a newly formed research and development facility, located in Hamilton is specializing in development of veterinary biologics and experimental response modifiers.

The company is interested in seeking assistance from Montana Veterinarians for field testing of various products, some of which have been used in treatment of equine sarcoids, melanomas, bovine fibrosarcomas and ocular sarcomas, as well as tumors in dogs.

Any practitioner interested in working with this company may contact Dr. Steve Schwartzman or Dr. John Cantrell, Ribi Immuno Chem Research, Inc., P. O. Box 1409, Hamilton, Montana 59840, telephone (406) 363-6214 for further information.

The Department of Livestock has no connection with this facility nor does it necessarily endorse any information or product produced by the firm.

RABIES

During the past month or so three new counties have been placed under quarantine for rabies. Custer and Stillwater have both had skunk rabies diagnosed and Carbon county had a cat diagnosed positive but so far no positive skunks have been found. Sanders county has been released from quarantine.

We have had excellent cooperation from practitioners in rabies areas and we want to acknowledge the immense amount of help they have been in battling the rabies problem.

- A Side -

With the continued spread of rabies east to west we seem to be thrown into some bizarre situations in which there are human exposure.

It seems that quite recently a man on the Fort Belknap Reservation was in the throes of a "Gallo stroke" when he lost his equilibrium and collapsed on a skunk.

The skunk objected and in the process bit and scratched the inebriate. When the man revived, he did remember that he had been in contact with a skunk. Because of prior positive cases in the area he is presently undergoing anit-rabies treatment.

Be careful of Gallo when around skunks.

THE COST OF ONE RABID DOG - CALIFORNIA

"On May 10, 1980, a dog in Yuba County, California, was placed under observation after it bit 3 persons in a parking lot in the Olivehurst area. Because the dog appeared ill, it was killed, and tissues were tested and found positive for rabies on May 12. The subsequent investigation by Sutter-Yuba County Health Department personnel eventually resulted in the identification of 70 persons, who received antirabies prophylaxis because of known or probable exposure to the dog. Because investigators found that only 20% of the dogs and cats in the area had up-to-date vaccinations, special clinics were held in which 2,000 dogs were vaccinated; over 300 unclaimed dogs and cats were destroyed.

No persons or other animals were known to develop rabies as a result of this episode. However, the costs generated by this single rabid dog were estimated as: $92,650 for human antirabies treatment, $4,190 for animal vaccination and veterinary services, and $8,950 for health-department and animal-control programs. The total cost of the episode was $105,790, or over $1,500 per person treated, not including lost work time, patient travel time, and costs of the 6 months' quarantine imposed on animals exposed to the rabid dog.

Editorial Note: There have been few reports in the literature in which costs could be assigned to 1 specific case of rabies. Although human rabies has become a rarity in the United States -- 0.5 cases per year -- the cost of controlling the disease is an increasing burden on health budgets."

SUPPLEMENTARY STATEMENT ON
RABIES VACCINE AND SEROLOGIC TESTING

"Human diploid cell strain rabies vaccine (HDCV) was licensed in the United States in June 1980. At its meeting on October 15, 1981, the Immunization Practices Advisory Committee(ACIP) reviewed data on sero-conversion in persons properly vaccinated with HDCV: the data showed that 100% of vaccinees (510/510) had protective antibody levels following pre-exposure treatment, and following post-exposure treatment, 99.9%(1,299/1,300) had protective antibody levels. In view of these findings, which corroborate prelicensure data, the ACIP now sees no reason to continue routine serologic testing of persons who receive the recommended pre-exposure or post-exposure treatment regimens of HDCV, ie., pre-exposure: 3 intramuscular, 1.0-ml doses on days 0, 7, and 21 or 28; post-exposure: rabies immune globulin plus 5 intramuscular, 1.0-ml doses on days 0, 3, 7, 14, and 28."

Both articles above - Source: " Morbidity and Mortality Weekly Report", October 30, 1981; Vol. 30; No. 42.

By:
B. Kraft
L. L. Stackhouse, D.V.M., Ph.D.

I. Accessions received in September 1981:

	September 1981	September 1980	% change
BOVINE	80	123	-34.95%
EQUINE	44	36	22.22%
PORCINE	16	23	-30-43%
OVINE	10	12	-16.66%
FELINE	39	13	200.00%
CANINE	97	80	21.25%
AVIAN	5	8	-37.50%
WILDLIFE	96	116	-17.24%
MISC.	26	57	-54.38%
TOTAL	413	468	-11.75%

II. Serology

A. Brucellosis (all species) total sera -- 12,625 sera; 19 positive
   1. Brucellosis routine tests -- 5,040 sera; 9 positive
   2. Quarantine herd tests -- 188 sera
   3. Slaughter samples -- 7,397 sera; 10 positive
   4. Seminal plasma -- Brucellosis -- 0

B. Brucellosis CF tests -- 186

C. Leptospirosis (all species) -- 77 sera
   1. L. pomona -- 14 positive
   2. L. hardjo -- 11 positive
   3. L. icterohemorrhagia -- 5 positive
   4. L. grippotyphosa -- 4 positive
   5. L. autumnalis -- 6 positive

D. Bluetongue -- 504 sera; 46 positive

E. Anaplasmosis -- 364 sera; all negative

F. IBR -- 41 sera; 6 positive

G. BVD -- 63 sera; 7 positive

H. PI_3 -- 28 sera; 8 positive

I. BLV -- 8 sera; all negative

J. EIA -- 405 sera; 1 sera negative

K. Pseudorabies -- 268 sera; Routine - 112 negative
   Slaughter - 156 negative

L. Feline Leukemia Virus -- 11 sera; 2 positive

M. Mare Pregnancy Test -- 17 sera; 7 positive

III. Rabies

A. 177 requests
1. Human exposure
a. 1 positive -- equine - Custer county
b. 46 negative
2. No human exposure
a. 14 positive
1. 10 bats - Silver Bow, Gallatin (2), Carbon, Ravalli (2), Missoula, Stillwater, Jefferson, and Flathead counties
2. 4 skunks - Phillips, Custer, and Sheridan (2) counties
b. 116 negative

IV. Bacteriology

A. Total -- 109 accessions processed resulting in 115 isolates.
B. Antibiotic sensitivities were run on 98 isolates.
C. FAT (clostridia) -- 4 cases; Cl.novyii (porcine case), Cl.septicum (porcine case)
2 bovine cases negative
D. Salmonella binza -- canine case
Salmonella typhimurium -- feline case

V. Virology

A. Virus isolation attempts
1. Bovine -- 6 cases; all negative
2. Porcine -- 4 cases; all negative

VI. Electron Microscopy

A. Feline - 2 negative
B. Canine - 1 parvovirus; 2 negative
C. Avian - 1 negative

VII. Pathology

A. 231 slides from 734 tissues were examined during the month of September.

Dr. Stackhouse and Dr. Quinn attended the Western Conference of Veterinary Diagnostic Pathologists' meeting on October 15 and 16 and were informed that Jaagsiekte (pulmonary adenomatosis) now exists in native sheep in Canada. The source of this infection was traced to sheep imported from England in the early 1970's.

Because this disease has been considered exotic and because of its proximity to our state, we are interested! Please submit sections of lungs from sheep with chronic respiratory disease for histopathology.

POISONING

A frequent request to the Diagnostic Laboratory is to test tissues for "all poisonous substances". Such an instruction cannot be followed and, if all available procedures were performed, the expense would be beyond comprehension or reason. If there is enough evidence available to suggest a poison may be involved, there must also be enough evidence to indicate which poison is suspected.

To substantiate a diagnosis of poisoning there must be a history of possible exposure, elimination of other diseases and a chemical analysis of appropriate tissues. The history is extremely important and the responsibility of the veterinarian. To find an animal dead with no apparent cause is not sufficient evidence that is was poisoned! The health status of other animals in the herd or flock must be evaluated. The type of feed and condition of pasture is essential as is the presence of extraneous material such as old paint, lubricating oils, etc.

After evaluating all circumstances surrounding an animal's death, a decision is made as to the likelihood of a poison being involved. If the possibility exists, laboratory assistance is needed. A postmortem examination including microscopic evaluation of tissues and attempts to isolate bacteria or viruses is the first step. In the majority of suspected poisonings an infectious agent is discovered and the presumptive diagnosis of poisoning eliminated.

The final and confirmative examination is the chemical analysis of tissue. This may be blood, urine, stomach contents, liver or kidney depending on the poison to be tested for. There is no such examination as a poison scan! Chemical analyses are detailed procedures to detect single substances, i.e., if lead poisoning is suspected the analysis is for lead and would not detect 1080, arsenic and etc.. It is essential that sufficient background information be obtained prior to the request for chemical tests.

The Diagnostic Laboratory has contracted with the Agricultural Experiment Station's Analytical Laboratory to perform a limited number of tests on an emergency basis. The Diagnostic Laboratory is subsidizing 50% of the cost of each test. For specific information contact the Diagnostic Laboratory at 586-8558.

A former laboratory employee is looking for employment in Montana upon graduation from veterinary school. She prefers a mixed practice and may be contacted at the following address:

Peg Junck
2417 East Nevada Street
Urbana, IL 61801
(217) 333-5300 University of Illinois

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VERTICAL TRANSMISSION OF BRUCELLOSIS

Presently Montana enjoys the enviable position of only having three brucellosis infected herds. (This number has fluctuated violently from one to seven herds and back in the past few months.)

One of the problems that has contributed to recurrent infection in certain herds and to breaks in herds which have purchased cattle has been (and is) vertical transmission of brucellosis. This means the transmission of brucellosis from the dam to a heifer calf with subsequent exhibition of symptoms by that heifer calf. A heifer calf that nurses an infected cow, shedding the organism in the milk, may become infected whether the cow is her natural mother or just a casual lunch stop.

This condition has been ignored for many years by the brucellosis program, although its presence has been documented since 1916.

While a state or area is flailing wildly trying to stomp out rampant Bang's, it is easy to ignore or miss the subtle causes of continued infection. When contact and adjacent herd testing is not done, it is pretty hard to spend much time fretting about the dangers of vertical transmission.

Here in Montana causes of reinfection and new infection have come under rather severe scrutiny over the past ten or so years as the numbers of infected herds have diminished, and as a consequence several incidents of vertical transmission have been documented and a number of probables have been elucidated on retrospective studies.

During 1979, a Wyoming feeder assembled a large number of yearling heifers from a variety of sources, bred them and then held a sale in the fall. Over a period of two to three months these heifers were sold in a variety of methods and locations due to sour market conditions.

Montana received 56 head of these from a sale in South Dakota after the heifers had been legally tested and certified for import. In February of 1980 they were retested, as required by import restrictions, and were again found to be negative to test for brucellosis.

The Montana rancher calved the heifers and subsequently sold 51 pairs to a Wyoming rancher. He retained five head that had "lost calves".

The Wyoming man sold the entire lot through another South Dakota market where three more Wyoming producers purchased parts of the dispersed bunch.

Wyoming Livestock Sanitary Board informed Montana this year that three herds in Wyoming were infected (culture positive) and there were contacts back into Montana.

After a session of gathering information about the Wyoming sale, it has been found that Montana received 1,980 head of these heifers in 11 different shipments. Two of these shipments went through Public Auction Yards in Billings so that ultimately 27 owners have received suspicious heifers.

Wyoming reports that they have 18 herds and Nebraska has 8 herds that have received cattle from this dispersal. South Dakota has not arrived at a final figure after 1,050 head of these cattle were sold through one of their northwestern markets.

We are in the process of locating the cattle that remain in Montana and arrangements are being made to test them this fall.

This case is an illustration of the problems that can arise with heifers originating from heavily infected areas, since federal authorities feel that the main problem in this bunch of heifers started with some of them that came from one of the heavily infected southeastern states.

These cattle moved from the Wyoming feeder through the various sales in compliance with all the health permit and test requirements and were granted movement privileges because of their negative test results. Then when parturition was imminent or abortion took place, infection exacerbated, titers rose, and some of these animals became full blown reactors.

This helps to reinforce accusations that allowing movement of heifer calves from infected herds is not in the best interest of the livestock industry.

Heifers from infected herds should be spayed, sent to quarantined feedlots or slaughtered. These heifers, if held in the parent herd, can continue the infection and if sold to others herds are a prescription for disaster.

DESTRUCTION OF UNUSED BRUCELLA VACCINE

With the dilutions involved in attaining the reduced dose of Brucella vaccine, there are, at times, some volumes of vaccine that go unused and must be disposed.

Since Brucella vaccine contains a live organism, there could be some unanticipated dangerous consequences incurred by accidental administration.

It would be wise to destroy any unused fractions of vials of vaccine by autoclaving or formalin inactivation prior to disposal.

Please take care in this disposal!

RABIES QUARANTINE RELEASES

At the request of several practitioners (who shall remain nameless, especially the one at Worden), we will attempt to keep all the practitioners (that read the newsletter at least) informed of the counties that are or are not quarantined due to rabies.

This past month the quarantines have been released on Flathead and Yellowstone Counties after assessment of their particular situations. If further rabies cases are diagnosed, a quarantine will be reimposed.

The status of all rabies quarantined counties is being reviewed and possibilities of release will be considered.

EQUINE ENCEPHALOMYELITIS

This year we are seeing an increase in cases of equine encepalitides reported within the state. As usual, probably by the time you receive this, we will have had a heavy frost and the problem will be solved for this year.

So far we have had 44 cases reported and they have been spread throughout the state, the bulk of them from north and east.

Please keep the Helena office informed of any and all cases diagnosed, whether clinical or laboratory confirmed. Our responsibility to inform the Department of Health remains and monitoring incidence and location of the disease is essential.

CHANGES IN STATES' IMPORT REQUIREMENTS

As the nation progresses in the Brucellosis Control Program, changes in the outlook on importation of animals and efficacy of vaccination have occurred. Quite a few states have scrutinized their policies regarding susceptible female bovines and have come to the conclusion that they can no longer afford to import unprotected females.

Consequently, many states have adopted import requirements that make official calfhood vaccination mandatory as a prerequisite to movement of cattle into those states.

Following is a table, that is hopefully up-to-date, listing those states requiring official calfhood vaccination as a requirement for import of female bovines:

State	Eligible Females	Effective Date
California	female dairy heifers over 2 months	
Florida	" " " " 6 months	7/01/81
Georgia	" " "	7/01/81
Idaho	all female beef and dairy cattle	7/01/80
Nebraska	all female cattle	11/01/81
Nevada	all female cattle	10/17/80
Utah	all heifers of vaccination eligible age	1/09/80
Oregon	all females over 90 days of age born after 1/01/81	2/81
North Dakota	all females over 10 months of age	past 20 years
South Dakota	all females	5/01/82
Montana	all females over 4 months of age	1/01/82
Wisconsin	all breeding females over 6 months of age (beef breed feeders come in under permit)	9/01/81

Montana, as well as other states, have concluded that the immunity level in the cattle population must be elevated as high as possible in order to successfully prevent reintroduction of brucellosis from outside sources.

THE ANIMAL RIGHTS CONTROVERSY

Over the past several years, there has been an increasing amount of agitation and publicity generated by individuals and organizations advocating animal rights, animal welfare, anticonfinement agriculture, etc.

Some of this concern is that of people truly worried about inhumane treatment of animals, both pet and farm. Portions of the other concerns stem from a disparate array of groups and people. Vegetarians, animal behaviorists, humane organizations, militants that advocate everything from absolute animal rights to agrarian reform.

As veterinarians, we all, by the very nature of the profession, advocate and practice the humane treatment of all animals to which we minister or over which we have control.

As livestock owners and producers, the very heart of a successful livestock enterprise is the humane treatment of the livestock involved.

All livestock production has intensified over the past thirty years to meet needs dictated by economics. At present, in these United States there is less than 5% of the population engaged in agriculture and these few people feed all of these United States and a large portion of the rest of the world of four billion people. In the process of this intensification, many practices have developed that have concentrated animal populations and, as in anything else, where parts of a problem are dealt with rather than the whole, excesses in some cases have been created.

Battery laying operations, confinement feeder operations, and confinement farrowing can't be much worse nor less humane than the conditions humans are kept in, in New York, Chicago, and other large cities.

Assuredly, there have been methods and practices developed that change drastically the habits of the animals involved. But as soon as an animal comes in contact with man its habits must change, more so if the animal is domesticated or kept for economic purposes.

Very few people purposely abuse an animal. Most animal abuse is a result of ignorance and/or insensitivity, and correction of this type situation is best accomplished through education.

The few purposeful animal abusers have psychological problems of their own, as do child and spouse abusers, and have to be dealt with through other means.

To hinder and hamper all animal owners through militant agitation for regulatory legislation is wrong and an abuse of our democratic system. The inability of a group to tolerate lines of thought that differ from their own is the worst type of dictatorship. Some of the groups involved in these "animal rights" movements feel that they and only they are the proper arbiters of what is or is not proper treatment of animals.

Many advocates of these animal rights ideas adhere to the concept that any artificial interference with an animal's natural behavior is a cruelty, consequently maintaining animals for use as food is improper.

It would be interesting to note how many of the so-called vegetarians involved in these movements have no scruples about eating milk, eggs, cheeses, etc.

Also as a worshiper of life, I think it should be high time for the establishment of an organization dedicated to "plants rights" to protect all the green living things from abuse and unethical exploitation.

Plants should be allowed to live out their lives in the natural state, unfetterd and without fear of being consumed as a delicacy by some unethical herbivore after having been raised in a confined circumstance in which no thought was given to the plant's freedom and well being.

As veterinarians, we all should be acutely aware of the state of these animal rights and freedom movements and we should be in the forefront in developing and maintaining sane, practical, and economically realistic approaches to the proper humane handling and raising of all animals.

Only the abdication of our own responsibilities along this line can allow the dominance of extreme and impractical people and ideas in this area.

In this area, one must remember that the general population has little or no contact with animals, other than pets, which tend to be treated as another type human. Many school children do not know that meat, milk and eggs do not originate in the little packages seen in the supermarket, and consequently they become easy prey to educational programs that state that to kill any cute cuddly lamb or calf or chick for food is morally and ethically wrong.

REPLACEMENT PAGE FOR CANADIAN IMPORT REQUIREMENTS

Enclosed is replacement page "B" of the Canadian import requirements. Please discard old page "B" and replace with the current page.

DIAGNOSTIC LABORATORY NEWS

By:
William J. Quinn, D.V.M.
B. Kraft

I. Accessions received in August 1981:

	August 1981	August 1980	% change
BOVINE	65	129	-49.61%
EQUINE	48	32	50.00%
PORCINE	6	17	-64.70%
OVINE	7	14	-50.00%
FELINE	56	17	229.41%
CANINE	100	62	61.29%
AVIAN	6	13	-53.84%
WILDLIFE	132	66	100.00%
MISC.	28	60	-53.33%
TOTAL	448	410	9.26%

II. Serology

A. Brucellosis (all species) total sera -- 7,867 sera; 40 positive
   1. Brucellosis routine tests -- 2,752 sera; 3 positive
   2. Quarantine herd tests -- 0
   3. Slaughter samples -- 5,115 sera; 10 positive
   4. Seminal plasma -- Brucellosis -- 0

B. Brucellosis CF tests -- 61

C. Leptospirosis (all species) -- 96 sera
   1. L. pomona -- 3 positive
   2. L. hardjo -- 17 positive
   3. L. icterohemorrhagia -- 3 positive
   4. L. grippotyphosa -- 6 positive
   5. L. autumnalis -- 2 positive
   6. L. canicola -- 7 positive

D. Bluetongue -- 398 sera; 46 positive

E. Anaplasmosis -- 450 sera; 5 positive

F. IBR -- 54 sera; 0 positive

G. BVD -- 54 sera; 5 positive

H. PI_3 -- 38 sera; 6 positive

I. BLV -- 6 sera; 0 positive

J. EIA -- 399 sera; all negative

K. Pseudorabies -- 149 sera; Routine - 3 negative
   Slaughter - 146 negative

L. Feline Leukemia Virus -- 15 sera; 4 positive

M. Mare Pregnancy Test -- 11 sera; 7 positive

III. Rabies

A. 161 requests
   1. Human exposure
      a. 1 positive -- bat - Cascade county
      b. 46 negative
   2. No human exposure
      a. 12 positive
         1. 8 bats - Silver Bow, Musselshell, Powell, Lewis and Clark(2), Carbon, Sheridan and Ravalli counties
         2. 4 skunks - Toole, Daniels, Phillips and Stillwater counties
      b. 102 negative

IV. Bacteriology

A. Total -- 144 accessions processed resulting in 263 isolates.
B. Antibiotic sensitivities were run on 113 isolates.
C. FAT (clostridia) -- 5 cases; all negative
D. Salmonella dublin -- 1 bovine case
E. Brucella -- 6 sets of tissues representing 2 herds were cultured. All were negative

V. Virology

A. Virus isolation attempts
   1. Bovine -- 9 cases; all negative
   2. Porcine -- 4 cases; all negative
   3. Canine -- 1 case; negative
B. Fluorescent antibody tests
   1. Bovine fetal kidney -- 5 negative

VI. Electron Microscopy

A. Canine -- 2 parvovirus, 5 negative
B. Avian -- 1 negative

VII. Pathology

A. 248 slides from 725 tissues were examined during the month of August.

ITEMS OF INTEREST

****

1. Dr. R. P. Myers has accepted the veterinary microbiologist's position in the Diagnostic Laboratory and will report for work on January 1st.

Dr. Myers (WSU '67) practiced in Belgrade for nine years. During the past three years he has been a graduate student at both Kansas State University and Colorado State University. He will complete the requirements for his MS degree this Fall at CSU.

It is anticipated that Dr. Myers will be able to further develop and improve the laboratory's capabilities in the fields of virology and bacteriology. Dr. Myers' background and training will allow him to contribute to the lab's mission of providing timely, reliable service for Montana veterinarians.

2. The laboratory staff is interested in meeting with and speaking to local veterinary groups throughout the state. The topics can be varied, but should relate to some aspect of laboratory service.

In keeping with the idea of providing information to veterinary groups we produced

two videotapes relating to the laboratory. The first one is a general information tape about Marsh Laboratory covering both the Diagnostic Laboratory and the Research Laboratory which lasts approximately 28 minutes. The second one is Bovine Necropsy Technique and it also lasts about 28 minutes. These tapes could provide an introduction for questions and discussion.

If your group is interested in this type of a program please contact the laboratory in order that the arrangements can be made.

3. During the Fall months the numbers of requests for laboratory assistance in the diagnosis of bovine respiratory and central nervous system diseases increase dramatically. In order to gain the most information at the lowest cost a few guidelines are offered.

A. Pneumonias
   1. Tissues -- Send multiple tissues, fresh (iced) for bacterial and viral culturing and fixed for histopathology. Large pieces of lung should be selected for cultures, 5x5x5 cm; and whole lymph nodes for culture.
   2. Nasal swabs -- Select several animals realizing that during the acute phase of the disease viruses may be detected, seldom after several days of clinical disease. The swabs should be placed in a sterile container with 1-2 drops of sterile saline and submitted to the laboratory on ice. Pairs of swabs from the same animal are preferred; one for virus and one for bacteria.
   3. Sera -- Sample a representative number of animals in various stages of the disease and mark them in order to rebleed for a convalescent sample. Convalescent samples should be collected between 14 and 21 days after the first bleeding.

B. Central Nervous System Diseases
   1. Tissues -- Submit one half of the brain (mid-saggital section) fixed in 10% formalin for histopathology and the remaining half cooled for culturing. Other lesions in the affected animal should also be submitted, e.g. colon (coccidiosis), kidney (lead), lung (Hemophilus somnus), etc.
   2. Blood samples -- Sera and heparinized blood may be helpful in some cases, if not needed the decision to discard the samples can be made in the laboratory.
   3. Other samples -- Feed, water, feces and suspect toxins may be necessary to arrive at a definitive diagnosis; these samples are generally processed following the histopathologic examination.

4. Milk sample fees:

The charges for the first cow-unit sample (quarter samples, single sample or composite) is $5.00 for culture and antibiotic sensitivity. The second and subsequent samples are $1.00/cow unit. Therefore, quarter samples from 10 cows (40 samples) costs $5.00 plus $9.00 for a total of $14.00. This fee applies for the same herd on the same SV-43 form submitted at one time.

NOTICE: Fee increases in the clinical pathology laboratory of the Veterinary Research Laboratory, MSU, effective November 1, 1981.

Due to the increased cost of reagents and equipment maintenance in the clinical pathology department we find it necessary to make some adjustments in the charges for some specific tests and profiles. In addition we will be offering a profile for large animals and one for small animals instead of the general survey. Individual serum chemical and hematology tests will be continued as in the past. Test results will continue to be telephoned to your office as in the past.

The accompanying green sheet of fees can be detached for your reference. These changes will become effective November 1, 1981. If you have any questions or need further information please feel free to contact us.

Jack Catlin
Veterinary Research Laboratory
Montana State University
994-4705

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PERTINENT THOUGHTS FROM TIMES PAST

During this past month, some time has been spent reading some old newsletters for both ideas as to format, subject matter, etc., and personal interest.

One of the most gratifying things I have discovered with this job is the editing of the monthly newsletter. Not only is there personal interest and pleasure in writing, but the opportunity to "vent the spleen" and state a few things that I feel should be stated, from the viewpoint tempered by quite a number of years in practice, and also attempt to pass on some information.

To return to my thought, in the newsletters, was one written by Dr. John Safford in April, 1959 about the Montana deputyship status of practicing veterinarians.

Since this subject comes up quite often, both with new veterinarians to the state and established practitioners in their dealings with the state and federal governments, I thought the article apropos.

From the "Montana Livestock Sanitary Board Newsletter, April 1, 1959."

Deputy State Veterinarians

"Resident Deputy State Veterinarians are practicing veterinarians approved to make interstate inspections and tests of livestock and are vested with legal authority to act for the Livestock Sanitary Board (now Department of Livestock) in cases of emergency and when authorized and instructed to make investigations by the State Veterinarian.

This policy has been in effect since territorial days. The results of the work done by Resident Deputy State Veterinarians (now Deputy State Veterinarian) has helped control and eradicate many livestock diseases and has helped materially to make milk and meat products wholesome and safe for consumers. The authority under which this work was and is done has been granted Deputy State Veterinarians by the people of Montana through laws enacted by the Legislature and the regulations thereunder promulgated. The livestock industry and the people of Montana are very proud of the way the veterinarians have met the responsibilities placed on them through the laws enacted.

Had not these responsibilities been met by worthwhile accomplishment, the authority and trust placed in veterinarians by the various laws and regulations would have been removed by changes in the laws and given to some other group.

It is not hard to imagine the economic chaos our livestock industry would be in today and what the state of private practice would be if all the diseases that have been eradicated and controlled were still periodically sweeping through the country. What would it be like if there were no authority to prevent the introduction of disease and the subsequent wiping out of your clients' herds?

In Montana a great deal depends upon the Deputy State Veterinarian. His clients expect him to know the Montana laws and regulations. It is imperative that all official acts be carried out with great care and strictly in accordance with the regulations. It is imperative that the work be done with integrity and keen professional ability. Nothing less is expected of our veterinary medical profession to meet the challange of today and tomorrow."

This article helps to give a little history of your deputyship and the reason behind it. It is a charge that is not to be taken lightly and the obligations that it entails are to be discharged properly.

BRAD

* * * * * * * * * * *

A.R.M. REPLACEMENT PAGE - ERROR

Last month all Deputy State Veterinarians received Administrative Rules of Montana replacement page 32-584. An error was discovered on that page, therefore, enclosed is a corrected page that should be inserted in your book of Administrative Rules of Montana.

DISCONTINUATION OF DUCK EMBRYO RABIES VACCINE

On August 10, 1981, Eli Lilly and Company announced that it will cease domestic sales of its duck embryo rabies vaccine on November 30, 1981. Marketing outside the United States will terminate in the second quarter of 1982.

Source: Morbidity and Mortality Weekly Report, August 21, 1981, Vol. 30, No. 32.

AMERIAN ASSOCIATION OF BOVINE PRACTITIONERS

Dr. Bob Darlington, Director of Region XI, has asked that we remind all Bovine Practitioners that this year's meeting will be held in Seattle, Washington, December 8-11, 1981, at the Seattle Center. There will be a

varied program and quite a number of pertinent subjects of interest to Montana practitioners will be presented.

For information, contact H. E. Amstutz, D.V.M., Box 2319, West Lafayette, Indiana 47906.

BRUCELLA ABORTUS VACCINE

All Brucella vaccine to be used during the 1981 season will be used at the dilute rate, as it was last year.

Similar procedures, submission of representative samples from each manufacturer's lot, to the lab for viability count, dilution, etc., will again take place.

We have current counts on several lots - some new, some old:

Manufacturer	Lot	Viability Count	Amt. of Diluent	Exp.
Jen Sal	# 547	$12x10^9$ cells/cc	175 cc	2/25/81
" "	# 563	$22x10^9$	341 cc	7/07/81
Haver Lockhart	#15067	$10x10^9$	141 cc	9/18/81
Jen Sal	# 558	$11x10^9$	158 cc	5/80/81
" "	# 572	$17x10^9$	258 cc	12/31/81
" "	# 513	$13x10^9$	191 cc	10/80
Haver Lockhart	#15056	$16x10^9$	241 cc	5/13/81
Jen Sal	# 582	$16x10^9$	241 cc	3/06/82

Please adhere to the dilution protocol. Reconstitute the vaccine. Use 25 cc of that reconstituted vaccine and dilute with the appropriate amount of diluent. Then administer a 2 cc dose of the diluted vaccine. Eartag, tattoo the animal, and fill out the certificates, listing tag numbers used. Send a copy of the completed form to Helena no later than the end of the week in which the vaccination was done.

Please be diligent and careful when vaccinating and identifying these cattle because these young vaccinates are the source of the major portion of the problems we have with the brucellosis program.

Proper identification will loom larger and larger as far as the Department's needs, over the next year or so with some changes we are instituting in our record handling system.

As the kinks in the system are ironed out, I'm sure that we will be able to assist you practitioners, as far as, better identification and retrieval of related information for your usage.

Hopefully one of these months I'll write a newsletter and the word "brucellosis" won't even be in it.

REO VACCINE

Dr. Zancanella has informed this office that his concern no longer supplies REO Vaccine. All requests for REO Vaccine should be forwarded to the Colorado Serum Company, or their distributors.

FACT SHEET
Recombinant DNA Research
Foot and Mouth Disease

SEA and Genentech scientists have reproduced, through gene cloning, a fraction of the foot and mouth disease virus coat. The fraction, called VP_3, is one of four major proteins (VP_1, VP_2, VP_3 and VP_4)--or polypeptides--in the foot-and-mouth disease virus coat.

Biochemist Howard L. Bachrach and research colleagues at Plum Island demonstrated in 1975 that the sub-unit VP_3 is noninfectious but capable of producing immunity in livestock. However, until the new recombinant DNA techniques were developed, production of the polypeptide VP_3 vaccine was not possible on a commerical scale. It had to be produced through conventional methods from purified, inactivated viruses. These techniques were time-consuming and costly.

These production methods and others used to produce whole virus vaccines are risky. If the virus is not properly inactivated, the vaccine could cause the disease in vaccinated animals. And escape of the live virus from the laboratory is always possible.

Nevertheless, more than 500 million doses of whole virus vaccines are currently produced and used annually in countries where foot and mouth exists.

In the recombinant DNA production method, scientists use the bacteria Escherichia coli, Strain K-12, as the host for reproducing the VP_3 polypeptide of the foot-and-mouth disease virus coat. Using a cutting enzyme, scientists cut apart a plasmid (small ring of DNA) from the E. coli bacterium. Then they isolate the VP_3 DNA fragment, splice this DNA fragment into the E. coli pasmid, and insert the recombined plasmid into the E. coli bacterium. The bio-engineered plasmid can then be cloned in the bacteria to produce the foot-and-mouth disease vaccine.

Yields of the immunizing protein, VP_3, obtained by this technique are such that production of commercial quantities of the vaccine are feasible.

Source: Livestock Conservation Institute
South St. Paul, MN 66075

I. Accessions received in July 1981:

	July 1981	July 1980	% change
BOVINE	96	137	-29.93%
EQUINE	58	52	11.53%
PORCINE	9	14	-35.71%
OVINE	11	16	-31.25%
FELINE	60	18	233.33%
CANINE	97	60	61.66%
AVIAN	11	17	-35.29%
WILDLIFE	118	65	81.54%
MISC.	30	45	-33.33%
TOTAL	490	424	15.57%

II. Serology

A. Brucellosis (all species) Total sera --14,437 sera; 36 positive
   1. Brucellosis routine tests -- 6,570 sera; 16 positive
   2. Quarantine herd tests -- 132 sera; 3 suspects
   3. Slaughter samples -- 7,730 sera; 20 positive
   4. Seminal plasma -- Brucellosis -- 5 negative

B. Brucellosis CF tests -- 64

C. Leptospirosis (all species) --59 sera (391 L. pomona only - sheep)
   1. L. pomona -- 9 positive
   2. L. hardjo -- 9 positive
   3. L. icterohamorrhagia -- 6 positive
   4. L. grippotyphosa -- 9 positive
   5. L. autumnalis -- 9 positive
   6. L. canicola -- 6 positive

D. Bluetongue-- 521 sera; 5 positive

E. Anaplasmosis -- 132 sera; 6 positive

F. IBR -- 53 sera; 17 positive

G. BVD -- 58 sera; 4 positive

H. PI_3 -- 49 sera; 14 positive

I. BLV -- 8 sera; 1 positive

J. EIA -- 346 sera; 3 positive

K. Pseudorabies --217 sera; Routine-2 sera; 1 negative and 1 toxic
   Slaughter-215 sera; 170 negative and 45 undetermined

L. Feline Leukemia Virus -- 12 sera; 9 positive

M. Mare Pregnancy Test -- 18 sera; 13 positive

III. Rabies

A. 148 requests
1. Human exposure
a. 3 positive
1. 2 feline (North Dakota and Hill county)
2. bat (Rosebud county)
b. 24 negative
2. No human exposure
a. 7 positive
1. 6 skunks (Toole, Richland, Daniels (2), Sheridan and Glacier)
2. 1 bat (Hill)
b. 114 negative

IV. Bacteriology

A. Total -- 144 accessions processed resulting in 172 isolates.
B. Antibiotic sensitivities were run on 163 isolates.
C. FAT (clostridia) -- 1 bovine case; negative
D. Salmonella london -- 1 bovine case
E. Brucella -- 14 sets of tissues representing 9 herds were cultured. All were negative.

V. Virology

A. Virus isolation attempts
1. Bovine -- 9 cases; 1 positive BVD
2. Porcine -- 6 cases; all negative
B. Fluorescent antibody tests
1. Porcine TGE -- 1 positive

VI. Electron Microscopy

A. Bovine -- 1 negative
B. Canine -- 3 Parvovirus
C. Wildlife (golden eagle) -- 1 negative

VII. Pathology

A. 299 slides from 828 tissues were examined during the month of July.

Dr. C. D. Peterson resigned his position as veterinary microbiologist effective August 1, 1981.

Dr. Jack Rhyan starts work as veterinary pathologist on September 1, 1981.

The speakers at the Fifth Annual Veterinary Symposium here in Bozeman are Dr. John Gunther and Dr. Randy Ott. Dr. Gunther is presently teaching in the Theriogenology Section of the Department of Clinical Medicine at Michigan State University. Dr. Ott is Associate Professor in the Theriogenology Section of the Department of Veterinary Clinical Medicine at the University of Illinois. The symposium on theriogenology is here in Bozeman on September 18, 1981.

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EVERYTHING YOU DIDN'T WANT TO KNOW ABOUT BRUCELLOSIS AND REFUSED TO ASK

After the USAHA Brucellosis Committee met in Denver in the middle of June, recommendations were put forth to change the state status classification. This means that Montana will be able to make Class A status January 1, 1982 and therefore, this will not be a reversion to a more stringent testing regimen.

The change in classification comes mainly through the addition of a Class 0 (zero infection) in which five states or territories will fall.

As of July 1, 1982, Montana has only one brucellosis infected herd! This is the lowest incidence of infection that has ever been recorded in this state since the inception of the control program.

After the initial area tests were completed during 1954-55-56 approximately, 2,700 herds (10% of the herds in the state) were found to be infected. By the expenditure of untolled amounts of monies, and exceptional efforts by veterinarians, technicians, ranchers, and others involved in the program over the past 30 years we came to the point where we now are, with one herd under quarantine due to Brucella abortus Biotype I infection.

If all goes well this herd should be released from quarantine during this coming September, and then Montana will be eligible for Class 0 status if we can remain free of infection for 12 months. Ultimately, two or so years down the line, the need for the change of ownership test will also pass, and this added expense to the producer will end.

It is quite apparent that the elimination of brucellosis in this state has been a joint effort of many, many people over the past 30 or 40 years.

There have been many members of the Livestock Sanitary Board (now the Board of Livestock), a number of state veterinarians, (Dr. W. J. Butler, Dr. H. F. Wilkins, Dr. Hadleigh Marsh, Dr. J. W. Safford, Dr. G. C. Halver, Dr. J. W. Glosser) who have piloted various phases of the program and several (Wilkins, Safford, Halver, & Glosser) who have also served as directors of the control program.

There have been many veterinarians who have served as field and district veterinarians during this time, Drs. Brosz, Ferlicka, N. D. Patterson, and James presently. And to name some who are now in private practices or retired but still in the state are Drs. Nordell, Stokke, Hencke, Cooper, Furgeson, Leslie, Jasmin, Joneschild, Seekins, Nelson, and many many more.

The federal government has had many veterinarians in the state that have contributed immensely to the effort and its difficult to name all without slighting some. Presently Drs. Lambert, Ferrell, Pribanic, Houle, Ridge and R. C. Patterson are working in the state, Dr. Slack (retired).

The dean of all the federal veterinarians working in Montana at this time is Dr. Paul N. Holcomb. Paul has battled this mess for twenty seven years as a field veterinarian and station epidemiologist. I feel that he is the leading authority on field epidemiology of brucellosis and probably has the widest experience and most practical approach to eradication of brucellosis of any

veterinarian I have met. Without Dr. Holcomb's knowledge and perseverance and special talents, I'm sure Montana's brucellosis problems would still be present at a much higher rate. We have to be at 0 infection when Paul retires next year.

Many technicians have worked in the program over the years Joe Jackson, Jim Polk, Erv Carlson, Ira Moore, Muggs Murray and many others to the present Ron Brumfield and Russ Olson.

I know that many people will feel that I have unfairly overlooked them and their efforts and I sincerely apologize if they do. It is most difficult to give credit to all those deserving by name without slighting some because of my lack of knowledge of their contributions and limitations of space.

The last great unnamed group, without whose efforts this whole brucellosis control program would have foundered, are the practicing veterinarians.

This group has been chastised, cussed out, blamed for failures, accused of noncooperation, charged with malfeasance, malpractice and misappropriation and all the while as a profession it has just gone and put its head down and hind end up and plowed on, subsidizing the program, by the profession's unselfish efforts and strong personal commitment to the Montana livestock industry. The industry owes this bunch a large debt of gratitude as does the Department of Livestock and it's Board.

To all these above mentioned people a heartfelt THANKS!

RABIES (TOLLWUT, LYSSA, HYDROPHABIA, L'RAGE)

This past year has been a disaster as far as rabies is concerned. There have been 79 positive cases diagnosed since January 1, 1981; 61 skunks, 5 dogs, 8 cats, 3 cattle, 2 sheep. From these, there have been 70 humans exposed, that have undergone anti-rabies prophylaxis.

This disease is now considered endemic in 27 counties, Flathead, Phillips, Hill, Teton and Toole counties having been placed under quarantine in 1981.

Big Horn, Blaine, Carter, Choteau, Daniels, Dawson, Fallon, Fergus, Garfield, Glacier, Judith Basin, Liberty, McCone, Powder River, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Valley, Wibaux and Yellowstone have been placed under quarantine during preceeding years.

During the past 3 to 4 months, 8 cats have been diagnosed positive and several have exposed people.

Many of the exposures that occur are due to foolish actions by people and totally unnecessary.

In June a family in Teton County picked up a young skunk found by the side of a road, and took it home to nurse it, since it was ill! Family members force fed the skunk, by hand, exposing themselves. The skunk died June 18 and on June 22 the Diagnostic Laboratory reported the case as positive. Eight members of the family underwent anti-rabies treatment.

Again in June in Sheridan County a cat was attacked by a skunk, the skunk was diagnosed positive, later the cat was tested and found to be positive. Seven family members had been exposed and were treated.

In another case a pup of unknown origin was diagnosed positive after having played on a school playground with children. Twenty-two people were treated after this incident.

Cats (mainly feral cats) are being diagnosed positive with increased frequency.

Skunk control measures are being pursued but attempts to control feral cats, especially around farmsteads meet with varying results.

Practitioners should intensify efforts to immunize dogs and cats against rabies, and warn people in endemic areas of the increasing dangers.

I personally, have always felt that cats, in endemic areas, present a worse threat to humans than dogs, since people are more prone to tolerate cat bites and scratches than dog bites and scratches.

In the past 17 years rabies has spread from the farthest northeast corner of Montana almost to the mountains from Canadian to the Wyoming borders. It certainly is a threat of which everyone must be aware!

CHANGES IN RECORD KEEPING SYSTEM

Now that we are only 81 years into the 20th century the Department of Livestock is attempting to modernize some of the record keeping methods that we use. So this fall a new automated word processor machine (fancy for a typewriter with a TV screen) will replace a bevy of Bob Cratchits with quill pens perched at high book keeping desks.

So here comes the hard part! -----

In order to fully utilize the talents of this machine all blanks on all the forms you send in will have to be filled out. Especially complete names and complete addresses of all clients when filling out serology charts and laboratory submission forms. These documents have to have proper names and addresses since we are changing the file system so that each herd has all data pertaining to it filed in one spot. This will help us in disease epidemiology, relaying information to you and clients, and enhance our ability to work with disease trends and expectations, etc.

So, please fill out forms completely. NAMES AND ADDRESSES.

P.S. We have certificates for 356,185 head of heifer calves that were officially vaccinated for brucellosis from July 1, 1980 to June 30, 1981. Figuring that about every 3rd or 4th certificate that we hunt for is evidently not on file here, there must be another 150,000 or 200,000 head out there vaccinated but not properly certified.

Clean out your car, truck, pockets, desk, etc. and send those certificates in for this year! Also for last year and all those other years that you are behind!

PLAGUE ASSOCIATED WITH CATS

From CDC's Morbidity & Mortality Weekly Report, June 12, 1981, Vol. 30, No. 22.

"Domestic cats, an uncommon source of human infection with Yersinia pestis, were recently associated with 2 cases of human plague; 1 case was fatal. Only 6 other cat-associated plague cases have ever been reported."

One woman became acutely ill after her cat had brought home a dead chipmunk. The cat sickened and died. After the woman's death the cats body was examined and Y. pestis was cultured from lymph nodes and lungs.

The other cat associated case was an Evergreen, Colorado veterinarian who had been bitten, prior to his own illness, by a cat he was treating. Subsequently the cat was found to have a passive hemagglutination titer greater than 1:8192 to Y. pestis.

"Experimentally, cats are suspectible to Y. pestis inoculated parenterally and orally. Natural infection probably results from both the bite of infected fleas and the consumption of infected small animals, usually rodents."

"International Notes

Use of Human Diploid Cell Vaccine for Postexposure Rabies Treatment -- Canada

During the period June-October 1980, the Ontario Ministry of Health provided human diploid cell vaccine (HDCV, Merieux) for postexposure antirabies treatment of 141 persons. Of those treated, 96 had been exposed to proven rabid animals, 9 of them by bite wound. The delay between exposure and onset of treatment ranged from 1 to 18 days. The treatment regimen consisted of an initial dose of rabies immune globulin (20 IU/kg body weight) and 1 dose of vaccine, followed by doses of vaccine 3, 7, 14, and 30 days later.

Post-treatment blood samples from 127 of the 141 individuals were collected between days 45 and 90; 100% had acceptable (greater than 16) rapid fluorescent focus-inhibition titers (Table 1).

Five patients reported reactions to the vaccine. These ranged from mild local reactions to fever and malaise; 1 individual reported severe erythema and urticaria 7 days after inoculation. None of the treated patients developed rabies.

TABLE 1. Serologic responses to HDCV in 127 persons, Canada, 1980

Titer*	Number of Persons	Percent of Total
greater than 256	78	61.4
128	28	22.0
64	12	9.4
32	5	3.9
16	4	3.1
Total	127	100.0%+

*By rapid fluorescent focus-inhibition test.
+Corrected for rounding error.

Reported by A Evans, BS, DVM, Ontario Ministry of Health, Toronto, in the Ontario Ministry of Health's Communicable Disease Control Report 1981 Feb 27, and in the Canada Diseases Weekly Report 1981;7:70 1.

Editorial Note: These data from Canada are similar to results being obtained in the United States that show the new HDCV to be highly immunogenic and relatively nonreactogenic when given as recommended.

COLLECTION, SHIPPING, AND PROCESSING OF RABIES SUSPECTS

Any animal suspected of having rabies should be sacrificed immediately and sent to the laboratory for examination. Now that the immunofluorescence test is available, an animal does not have to be held to allow Negri bodies to develop. Fluorescing antigen will be detectable in the brain at any stage of the disease during which the virus can be transmitted. If a domestic or pet animal with no signs of illness bites a human or another animal and there is no other reason to suspect that the animal has rabies, it can be confined for 10 days. If symptoms develop during this holding period, the animal must be killed immediately and sent to the laboratory for testing. If no symptoms develop during the holding period, the exposed person is not considered at risk. Wild animals must always be killed immediately and sent to the laboratory for examination.

Animals should be killed and decapitated in the field. If the animal is shot to death, shoot it through the heart and not the head. A bullet in the brain will destroy the tissue used for laboratory tests. The head should immediately be cooled to 4°C. The entire bodies of small animals, such as bats, should be sent to the laboratory. Unless circumstances surrounding the exposure suggest rabies infection, caged rodents should not be submitted for rabies testing. Caged rodents constitute the major work load of some laboratories, and these animals are almost never infected.

Specimens should be placed in wet ice (4°C) and, where possible, delivered to the laboratory by messenger. If no messenger service is available, pack the head for shipment by the fastest common carrier. Put it in a suitable watertight metal container, such as a clean paint can, and seal the can tightly. Place this container in a larger watertight container, such as an ice chest or the cardboard, styrofoam lined shippers, and pack bagged ice or frozen ice packs around it. Forms containing the following information should accompany the specimen:

1. Name of the submitter
2. Date collected
3. Where collected
4. Species and breed of animal
5. Persons or animals exposed
6. Whether the suspect animal died or was killed
7. Vaccination status of the animal
8. Whether confined or observed before death
9. Description of the animal's behavior
10. Circumstances surrounding the exposure
11. Personnel to be informed of test results

Label the package clearly and ship it to the laboratory by the safest means.

By:
W. J. Quinn, D.V.M.
B. Kraft

Comparison of accessions and tests performed during FY 1980 and FY 1981.

	FY 1980	FY 1981	% change
BOVINE	2605	2829	8.59%
EQUINE	454	633	39.43%
PORCINE	251	235	-6.37%
OVINE	226	287	26.99%
FELINE	203	308	51.72%
CANINE	560	917	63.75%
AVIAN	90	105	16.66%
WILDLIFE	358	531	48.32%
MISC.	349	438	25.50%
TOTAL	5096	6283	23.29%

SEROLOGIC TESTS	FY 1980	FY 1981
Brucellosis (all species)	377,290/1733 positive	254,668/1207 positive
Routine tests	245,612/601 positive	228,600/301 positive
Quarantine herd tests	14,038/338 positive	9,660/179 positive
Slaughter samples	117,509/794 positive	116,295/706 positive
Seminal plasma	131	115
CF tests	3,461	8,965
Leptospirosis (all species)	3,296	3,487
Bluetongue	4,370/15 positive	6,544/542 positive
Anaplasmosis	3,224/61 positive	5,444/106 positive
IBR	1,575/391 positive	2,202/569 positive
BVD	1,412/146 positive	1,947/425 positive
PI_3	666/212 positive	959/370 positive
BLV	117/3 positive	591/3 positive
EIA	4,219/27 positive	3,687/37 positive
WEE and EEE	67/15 positive	33/3 positive
Mare Pregnancy Test	0/0	19/6 positive
Pseudorabies - total	1,634/10 positive	4,267/4 positive
BACTERIOLOGY		
Accessions	2,831	3,314
Isolates	3,700	4,086
Antibiotic sensitivities	2,823	3,191
Enteropathic *E. coli* tests	210/124 positive	322/87 positive
VIROLOGY		
Virus isolation attempts	236	356
Bovine	163	258
FA - IBR (fetal tissues)		304/12 positive
FA - Porcine Parvovirus		4
FA - Porcine TGE		13

	FY 1980	FY 1981
ELECTRON MICROSCOPY		
Number of samples	200	277
Coronavirus	43	39
Rotavirus	24	60
Coronavirus and rotavirus	1	3
Parvovirus	0	6
Poxvirus	0	2
RABIES TESTS		
Requests	553	872
Human exposure	217/3 positive (bovine, canine, skunk)	310/13 positive (bovine-3, feline-4, canine-3, bat-2, skunk-1)
No human exposure	296/37 positive (19 bats, 18 skunks)	562/87 positive (bovine, ovine-2, feline-2, canine-2 bat-14, skunk-66)
Counties with positives	Cascade, Yellowstone, Missoula, Flathead, Fergus, Carbon, Ravalli, Richland, Powell, Sheridan, Daniels, Fallon, McCone, Carter, Liberty, Mineral, North Dakota	Cascade, Yellowstone, Missoula, Lewis & Clark, Gallatin, Flathead, Powder River, Phillips, Hill, Custer, Dawson, Roosevelt, Valley, Blaine, Madison, Richland, Powell, Teton, Sheridan, Judith Basin, Daniels, Fallon, McCone, Carter, Wheatland, Prairie

PATHOLOGY

Since December 1, 1980, 3,423 slides from 10,863 tissues were examined.

Personnel Changes

Dr. Jan Bergeron resigned effective June 26, 1981, to accept a pathology position at the Florida State Diagnostic Laboratory in Kissimmee, Florida. Jan's enthusiasm and organizational ability will be missed here in Bozeman.

Dr. Jack Rhyan has been chosen to replace Dr. Bergeron. Dr. Rhyan graduated from veterinary school in 1975 and practiced for a couple of years here in Montana before returning to graduate school in Auburn, Alabama, to study pathology. Dr. Rhyan will complete his Masters degree in August and will start work on September 1, 1981.

Fifth Annual Veterinary Symposium -- Bozeman

The tentative topic for this year's meeting is bovine theriogenology. The tentative date is September 18, 1981. Further information will be sent when the details are finalized.

EEE - WEE - VEE

This year all serum samples for the diagnosis of equine encephalitis will be forwarded to the Veterinary Services Laboratory in Ames, Iowa, for testing. We plan to mail the samples each Wednesday. The results should be available the following Wednesday. Convalescent samples should be collected 14-21 days after the first sample from horses that recover in order to establish the diagnosis. There is no charge for this service.

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OVERLOOKED DURING MY SOMNOLENCE

Our recently and dearly departed legislature passed House Bill No. 152 that prohibits possession of bats, skunks, foxes, or raccoons, and certain other species of animals known to be capable of transmitting rabies to humans.

This law is the culmination of efforts on the part of the MVMA, several individual veterinarians and the present State Veterinarian that cover a period of years that includes at least three legislative sessions.

Much of the credit for passage must be assumed by you people out there.

This law has a grandfather provision exempting animals possessed for six months prior to January 1, 1982. Fur bearing animals and animals for zoological exhibitions are also exempted. There are provisions in the law that empower the Department of Livestock to impound or take other actions considered reasonable to protect public health.

This measure is a public health measure and is not meant nor envisioned as a crusade against exotic pets, other than as a mechanism to reduce possible introduction of, or exposure to rabies.

With the widespread increase in skunk rabies in Montana and with the extension of effected counties, human exposures have been on the increase. We don't want anymore human problems than are absolutely unavoidable.

This calendar year, 52 people have undergone antirabies treatment in Montana.

We hope that this bill will enable us to go through succeeding years with fewer and fewer human problems associated with rabies.

BRUCELLOSIS - THE LAST GASP

Montana is presently looking at the last hurrah for Brucellosis, providing all phases of the industry work closely together, ranchers, regulatory agencies (both state and federal) and, yes, Private Practicing Veterinarians, to successfully elminate the final cases.

Those of you in food animal practice are all involved one way or the other in the Brucellosis program if you vaccinate one heifer calf or draw one blood specimen for Brucellosis test, or counsel a client on his involvement as an owner.

At present, there are six herds under quarantine in this state due to Brucellosis. For the first time in years none of these herds are

quarantined because of Strain 19 problems. Of these six herds, three have been depopulated and the quarantines will be released as soon as a small number of heifer calves are spayed. Two more herds are to be tested during June and if they are still negative, those quarantines will be released. The last herd should test clean by September, the good Lord willing.

With the reduction in numbers of Biotype I infection, the Strain 19 problems are magnified a hundred fold. The map included here demonstrates some of the difficulties resulting from injudicious use of Strain 19 Brucella vaccine. Not all problems with Strain 19 result from poor useage, though!

Between 1974 and 1980, 374 herds in Montana have been under quarantine for Brucellosis. One hundred fifty-one were Biotype I infection and 196 (56.5%) herds were quarantined due to Strain 19 problems.

Strain 19 problems can vary as we know; everything from infection caused by the vaccine (the serological picture of which is indistinguishable from that of field infection), stimulation of persistent titer (infection?), to the plain old carelessness of over age vaccination.

If some of you veterinarians are having difficulty in distinguishing between a calf and a yearling, maybe you ought to again refer to your texts, or ask a good cowboy.

Montana has at hand, and has used since September 1980, the greatest tool to overcome our last Brucellosis problems that anyone has come up with--the reduced dose!

We ask that, in the process of vaccinating heifer calves for Brucellosis this summer and fall of '81, you apply the care and professional diligence that is required to do a proper job; proper dilution of the vaccine according to protocol, proper tattooing and eartag identification, and the proper certification of the animal, which includes sending the paperwork to Helena. This is so we can credit a herd with Strain 19 vaccination if problems arise at a future time.

At the present time, we have a couple of herds under restraining orders because veterinarians have done less than a proper job in the vaccination procedures. One large herd is supposedly vaccinated but the State Veterinarian's Office does not have certificates for the past couple of years showing vaccination. Another herd is the victim of a veterinarian who is an incompetent tattooer. Several other herds have problems due to lack of eartags. Have you ever thought what the legal liability could be, as a consequence of a herd being quarantined due to slovenly practices by a veterinarian? It does happen.

I realize that many of you out there in the brush are adamantly against government being involved in disease control and feel that the state and federal governments have bungled handling the Bangs' problem.

You, in particular, will never know how much time is spent in these offices trying to straighten out messes created by shoddy work done in the field by practitioners.

All you antigovernmentalists! Have the courage of your convictions! If you object to the Brucellosis program, refuse to accept any money and refuse to perform any act that is based in the Brucellosis program.

Don't do an incomplete job of vaccination and identification and certification. Don't do a half baked job of bleeding, ID and test chart completion. And by the Great Horn Spoon, don't pass out a bunch of 30 or 40 year old misinformation and half truths about the Brucellosis Program. Do a little research and find out what is presently going on.

I am no admirer of this program nor how it has been handled, but I can't see continuing to do things that prolong the agony.

Do your clients a favor, take a look at the map! It's no big secret where part of the problem lies!

We're down to a point that soon you and I can both forget how to spell Brucellosis, if we all bend an effort to finishing the problem and then work toward prevention of reintroduction.

If you can't help your client, for God's sake, refer him to a good veterinarian, (there <u>are</u> quite a number of them in the state)!

The actual costs, in the State of Montana, due to loss from Brucellosis infection, are really quite small. The costs inflicted on the industry due to the Brucellosis program, amount over the past several years, to about 1.5 million dollars annually.

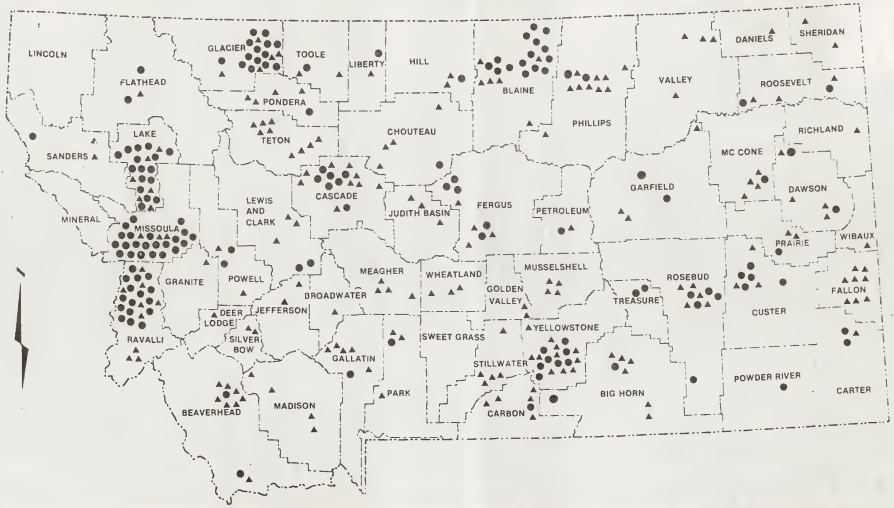
If we can eliminate the last infection in the state, we can anticipate reduction in industry costs in several areas in the next couple of years, (i.e. eliminate change of ownership testing, and handling of infected herds.).

Please help to get this monkey off all our backs so that <u>we all</u> can get to eliminating some disease problems that are <u>really</u> costing this industry a pile of money.

Everyone I've insulted, please line up on the right.

BRUCELLOSIS QUARANTINED HERDS — MONTANA

FY 1974-1980



Brucellosis — 151

Strain 19 — 196

Brucellosis Infected Herd, Type 1

Strain 19 Infection

NEW TELEPHONE NUMBER - DIAGNOSTIC LABORATORY, BOZEMAN

The Diagnostic Laboratory has received complaints that persons trying to call them get busy signals and it takes many tries before finally reaching them. Therefore, in order to correct this problem, effective July 1, 1981, they will have a new phone number, (406) 586-8558. You can also reach the laboratory at 994-4885 or 994-4740.

The old number will no longer be in service.

ENCEPHALITIS SEASON

After the rains and floods, conditions are ideal for a build up in the mosquito population and the threat of Equine Encephalomyelitis heightens.

All practitioners should be on the alert for clinical cases of encephalo in the horses, mules and other equidae you might see in practice.

Remember all cases of equine encephalomyelitis are to be reported to the state veterinarian's office whether they are clinical cases or laboratory confirmed. The Animal Health Division correlates surveillance with the Department of Health & Environmental Sciences because of the danger to humans.

It is also recommended that all horse owners be advised and encouraged to have their horses immunized against Eastern and Western Equine Encephalomyelitis prior to the worst part of the summer season.

The sooner the quicker!

LEGAL IMPLICATIONS OF BRUCELLOSIS TESTING

In the June 1, 1981 Journal of the AVMA, Vol. 178 there is an interesting article in the "Insurance Note" column titled "Brucellosis Testing Has a High Malpractice Exposure."

The question of malpractice liability arising from brucellosis testing done at markets, and as is done in some states, field tests by practitioners can be of great import to the testing veterinarians in cases in which there are differences between the veterinarian's interpretation of test results and that of the laboratory.

Quoting the article, "When many livestock are involved in a malpractice action rather than just a single animal, the stakes can be high.

The records of the AVMA Professional Liability Insurance Trust have revealed some interesting cases involving brucellosis testing of cattle. These cases follow a remarkably similar line. It would be well for everyone doing regulatory work to take note of the following observations.....

.....It is a regular practice in most states to allow private practicing veterinarians and also practitioners who are deputized by the state to collect blood samples and then perform the rapid brucellosis test themselves prior to the sale of cattle. The samples are then sent to a state laboratory for confirmation. Large numbers of cattle are processed in this manner, especially at sales yards.

Owners of these cattle do not want to be inconvenienced by waiting for results of official state tests which may not come until a week later. The sales yard operators do not want to hold these cattle at their yards, so the cattle are transported by the buyers to the buyers' premises where they are supposed to be kept in isolation. Herein lies the problem. It is not unusual for the results of the veterinarian's test to disagree with the official state test results. The disagreement can take the form of a false-positive test or a false-negative test..... Damages have been sought in both of these instances by owners of the cattle.....

.....Damages in such a case can be considerable.

In some states, the chain of communication relaying the results of the official tests to the individuals concerned is time-consuming and cumbersome. Sometimes this reporting involves federal officials, state officials, and then the testing veterinarian and the owners. The sales yard operators appear to have some responsibility here as well, and they have been drawn into the legal action along with the veterinarian and state officials.

The chances of liability can be considerably reduced if the testing veterinarian will follow a few simple rules. First of all, the veterinarian should make it perfectly clear to the owner that the field test is not the official test, but only a screening test. The owner also should be told that the screening tests and the official tests do not always agree, and that it is important to await the results of the official test. Second, the owner should be told to isolate purchased animals from the owner's other cattle until the official test results have been received. Third, reactor animals should not be branded on the basis of field test results. It would be helpful if all parties concerned would try to improve the method and speed of the reporting process.

Proof that the aforementioned instructions were transmitted to the owner is invaluable in the defense against a malpractice action. This can be done by placing a stamp on the owner's copy of the test charts or health certificate with the words "Unofficial test--Please await the results of the official test." Negligence charges could very well be dismissed on the basis of proof that the owner was made aware of the aforementioned information. It seems clear from the cases that have been presented for prosecution that the courts do not consider an inaccurate test by itself to be grounds for negligence. The circumstances surrounding the testing procedure, such as the qualification of the individual, methods used, reasonable care, and follow-up, do influence court decisions."

I. Accessions reported out in May:

	May 1981	May 1980	%change
BOVINE	242	333	-27.32%
EQUINE	75	74	1.35%
PORCINE	12	25	-52.00%
OVINE	20	48	-58.33%
FELINE	30	17	76.47%
CANINE	87	50	74.00%
AVIAN	14	7	100.00%
WILDLIFE	41	32	28.12%
MISC.	38	45	-15.55%
TOTAL	559	631	-11.41

II. Serology

A. Brucellosis (all species) Total sera -- 24,613 sera; 52 positive
   1. Brucellosis routine tests -- 15,791 sera; 23 positive
   2. Quarantine herd tests -- 613 sera; 4 positive
   3. Slaughter samples -- 8,202 sera; 25 positive
   4. Seminal plasma - Brucellosis -- 7 negative

B. Brucellosis CF tests -- 136

C. Leptospirosis (all species) -- 173 sera
   1. L. pomona -- 13 positive
   2. L. hardjo -- 8 positive
   3. L. grippotyphosa -- 3 positive
   4. L. autumnalis -- 2 positive
   5. L. canicola -- 1 positive

D. Bluetongue -- 230 sera; 6 positive

E. Anaplasmosis -- 521 sera; 47 positive

F. IBR -- 129 sera; 42 positive

G. BVD -- 188 sera; 92 positive

H. PI_3 -- 81 sera; 39 positive

I. BLV -- 14 sera; all negative

J. EIA -- 305 sera; all negative

K. Pseudorabies -- 433 sera; slaughter samples, all negative

L. Feline Leukemia Virus -- 6 sera; all positive

M. Mare Pregnancy Test -- 2 negative; 1 positive

III. Rabies

A. 70 requests
   1. Human exposure
      a. 1 positive (canine)
      b. 32 negative
      c. County - positive - Sheridan
   2. No human exposure
      a. 8 positive (skunks)
      b. 29 negative
      c. Counties - positive -- Valley, Richland, Sheridan (3), Daniels (2) and Carter

IV. Bacteriology

A. Total -- 291 accessions processed resulting in 228 isolates.
B. Antibiotic sensitivities were run on 217 isolates.
C. FAT (clostridia) -- 2 bovine cases - negative
D. Salmonella
   1. Salmonella dublin - bovine case
   2. Salmonella schwarzengrund - avian case
   3. Salmonella typhimurium - bovine case
E. Brucella
   1. 11 sets of tissues representing 11 herds were cultured for Brucella at the Bozeman laboratory.
   2. One set of tissues was positive for Brucella abortus, Type I, Strain 19
F. Miscellaneous
   1. Escherichia coli agglutinations
      a. 42 negative
      b. 9 positive

V. Virology

A. Virus isolation attempts
   1. Bovine -- 20 cases; all negative
   2. Porcine -- 8 cases; all negative
   3. Ovine -- 2 cases; all negative
B. Fluorescent antibody tests
   1. IBR (fetal kidney) -- bovine; 7 negative, 1 positive
   2. IBR (fetal kidney) -- buffalo; 1 negative
   3. Porcine TGE -- 2 negative

VI. Electron Microscopy

A. Bovine -- 31 negative; 9 rota
B. Equine -- 1 negative
C. Canine -- 2 negative

Tyzzer's Disease in Foals

Tyzzer's Disease has been recognized in young foals in Montana since 1976. Each year during the spring months one or more cases of Tyzzer's Disease is diagnosed. The usual clinical history is one of sudden death in a previously healthy foal. Most affected foals are approximately three weeks old.

Tyzzer's Disease has been recognized sporadically in the U.S. since 1964. The first report on the condition was made on 23 cases from Kentucky in 1973. Since then the disease has been reported from ten other states and Canada.

Affected foals range in age from one to six weeks. The clinical signs may vary from moderate depression, mild febrile response and occasional icterus to sudden death. Mortality is 100% with a clinical course of 2-12 hours. There is no breed or sex predilection.

Gross lesions at necropsy are enlarged, mottled livers and mild icterus. Small pale foci may be seen in some livers. Microscopically, multifocal areas of necrosis are seen randomly throughout sections of liver. Many of these foci coalesce to form large areas of necrosis. Moderate leukocytic infiltrates are present in the periphery of these lesions. Filamentous, intracellular bacteria may be seen in the margins of these lesions using special stains.

The causative agent is Bacillus piliformis, an obligate intracellular bacterium first described in mice by Tyzzer in 1917. Giemsa or Warthin-Starry stain is required in most instances to visualize the bacteria.

The disease is not considered to be highly contagious and the pathogenesis has not been determined. Therapy is not considered to be successful.

Because the bacteria cannot be grown on artificial media, the diagnosis of Tyzzer's Disease is based on demonstration of the bacteria in tissue. Tissue samples submitted to the laboratory for diagnosis should include liver fixed in 10% formalin.

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STATE VETERINARIAN

MVMA MEETING

Remember! The Montana Veterinary Medical Association Meeting in Helena, June 22, 23, & 24, 1981, at the Colonial Inn. All veterinarians should join and participate in the Association, otherwise you don't have a legitimate gripe when squalling about the mishandling of Association affairs by the officers and committee members. Participate and add to the problem!

By the way, for all the ropers in the crowd, we are going to have a team roping during the summer meeting, so bring your horses and ropes. Newcomb's Rent-a-Rope service will be available, if your wife won't let you pack yours with her lingerie.

The notice for the roping didn't get to Gil in time for publication with the program (that hopefully I receive soon).

LEGISLATIVE EFFECTS

The legislature finally called it quits and went home leaving many happy and dejected casualties in its wake, depending entirely on your viewpoint.

Veterinarians were, and are, effected by several pieces of legerdemain (or legislation, again dependent on viewpoint). Here's a short review:

Senate Bill 312 (The Sunset Review of the Board of Veterinarians) was introduced by the Legislative Audit Committee, as required by the law enabling the Sunset reviews.

Somewhat belatedly and less efficiently than it should have been the MVMA employed a lobbyist to help fight for its stand on reinstituting the Board of Veterinarians. The Board was reinstated but with several major changes.

1. Licensure of Veterinary Technicians under the Veterinary Practice Act was removed so that now there is no provision for their licensure.

2. Appointment of Board Members, by the Governor from a list submitted by the MVMA is no longer a requirement. The MVMA may still submit nominations but the Governor may select from any recommendation.

3. Requirement of citizenship as a pre-requisite for licensure to practice veterinary medicine has also been removed.

The changes in our Practice Act necessitated by the sunset review were done regardless of input by the MVMA. If the profession's view's had been pushed earlier there might have been some modifications that might have been incorporated.

From the Department's viewpoint there were several bills that have an impact on veterinarians.

Senate Bill 158 promoted our import permit requirement from an administrative rule to a law of the realm. This means that it is now law that all shipments of animals, semen, or animal biologics (other than USDA approved) must be accompanied by an import permit before entry into the State of Montana is allowed. this hopefully will allow teeth in prosecution of violations since prior prosecutions by and large have been defeated since "these are only rules".

Two bills were introduced by Representative Bob Sivertsen of Havre as companion pieces with the view that he would solicit support for the first if we would support the second. They both are measures to speed the final eradication of Brucellosis from the state.

Representative Sivertsen was and is very critical of the State and Federal governments' approaches or lack, thereof, to eradication of Brucellosis.

The first bill, which was defeated asked for the appropriation of general fund monies to pay indemnity on depopulation of the last few herds infected with Brucellosis in the state. This measure would have been taken, on passage, in order to qualify Montana as a Class A state January 1, 1982.

The second bill, Representative Sivertsen introduced, calls for mandatory vaccination of all female bovines over the age of 4 months before importation into Montana. (This measure does not call for mandatory vaccination within the state).

The bill was to have immediate effect on passage but Representative Ellerd of Bozeman introduced a bill which passed, and made the effective date January 1, 1982. So, after that date all female bovine 4 months of age and over must be officially vaccinated to be eligible for import into Montana.

House Bill 107 was introduced by Representative Ryan which outlines the Department's authority to require inspection and testing of species of animals other than livestock if they pose a threat to the state's livestock population.

Bills affecting the funding of the earmarked revenues this Department operates on were passed, these were the much publicized reduction in livestock tax rate and a subsequent bill changing mill levies to make up for loss of revenue due to the tax rate decrease.

There were several bills introduced that have indirect or marginal effects on veterinarians, but these are one's the MVMA lobbyist should be watching during a legislative session.

This is a brief overview, possibly more later in greater detail.

ALASKAN IMPORT RESTRICTIONS

Recently, we received a letter from the Alaska State Veterinarian's Office asking us to disseminate their requirements on importation of mammals into that state.

"Sets out guidelines for keeping certain live animals as pets: Provides for the possession of certain species of live game not requiring a permit, specifies conditions of a permit required for certain species of live game - 5 AAC 81.130

5 AAC 81.130. LIVE GAME, NESTS AND EGGS (a) except for game possessed, imported or exported under a permit issued under authority of AS 16.05.340(b) and .930 or birds possessed under terms of a falconry permit under sec. 40 of this chapter, after January 1, 1980 no person may possess, import into Alaska, or export from Alaska live game, or assist in any of the foregoing, except in accordance with the terms of a permit issued by the commissioner or his designee and, in the case of export, upon approval of the board of game;

(b) As used in this section, live game requiring a permit includes all species of mammals and birds and the nests or eggs of birds, except as listed below:

COMMON NAME	SCIENTIFIC NAME
Dog	Canis familiaris
Cat	Felis catus
Sheep	Ovis aries
Goat	Capra hircus
Cattle	Bos taurus
Oxen	Bos spp.
Horse	Equus caballus
Guinea Pig	Cavia porcellus
Reindeer	Ranqifer tarandus Var.
Llama	Lama peruana
Alpaca	Lama pacos
One-humped camel	Camelus dromedarius
Ass	Equus asinus Var.
Mule	Equus asinus x caballus
Swine	Sux scrofa Vat.
European rabbit	Oryctolagus cuniculus Var.
White rat	Rattus norvegicus Var. albinus
Mice-white, waltzing, singing, shaker, piebald	Nus musculus Var.
Fat-Tailed gerbil	Pachyuromys duprasi"

DIAGNOSTIC LABORATORY NEWS

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in April:

	April 1981	April 1980	% change
BOVINE	437	462	-5.41%
EQUINE	97	55	76.36%
PORCINE	26	21	23.80%
OVINE	78	49	59.18%
FELINE	21	14	50.00%
CANINE	59	44	34.09%
AVIAN	12	13	-7.69%
WILDLIFE	32	10	220.00%
MISC.	40	33	21.21%
TOTAL	802	701	14.40%

II. Serology

A. Brucellosis (all species) total sera -- 25,700 sera; 52 positive
   1. Brucellosis routine tests -- 16,717 sera;23 positive
   2. Quarantine herd tests -- 475 sera; 14 positive
   3. Slaughter samples -- 8,465 sera; 15 positive
   4. Seminal plasma - Brucellosis -- 43 negative

B. Brucellosis CF tests -- 195

C. Leptospirosis (all species) -- 236 sera
   1. L. pomona -- 29 positive
   2. L. hardjo -- 17 positive
   3. L. icterohemorrhagia -- 3 positive
   4. L. grippotyphosa -- 5 positive
   5. L. autumnalis -- 6 positive
   6. L. canicola -- 2 positive

D. Bluetongue -- 554 sera; 12 positive

E. Anaplasmosis -- 273 sera; 4 positive

F. IBR -- 122 sera; 39 positive

G. BVD -- 120 sera; 57 positive

H. PI_3 -- 38 sera; 13 positive

I. BLV -- 44 sera; all negative

J. EIA -- 347 sera; all negative

K. Pseudorabies -- 500 sera
   1. Routine -- 11 sera; negative
   2. Slaughter -- 489 sera; negative

L. Feline Leukemia Virus -- 4 sera; 2 positive

III. Rabies

A. 58 requests
1. Human exposure
a. 0 positive
b. 21 negative
2. No human exposure
a. 16 positive (1 bovine, 15 skunks)
b. 21 negative
c. Counties
1. Bovine -- Daniels
2. Skunks -- Powder River, Phillips (2), Roosevelt (4), Teton (2), Sheridan (2), Judith Basin, Daniels (2) and Carter

IV. Bacteriology

A. Total -- 541 accessions processed resulting in 453 isolates
B. Antibiotic sensitivities were run on 408 isolates
C. FAT (clostridia)
1. 12 bovine cases; 9 negative, Cl chauvoei (1), Cl. novyii (1), Cl. septicum (1)
2. 1 ovine case; negative
D. Salmonella
1. Salmonella dublin - bovine case
2. Salmonella typhimurium - canine case
E. Brucella
1. 8 sets of tissues representing 8 herds were cultured for Brucella at the Bozeman laboratory
2. 3 sets of tissues resulted in the isolation of Brucella abortus, Type I
F. Miscellaneous
1. Escherichia coli agglutinations
a. 53 positive
b. 102 negative
2. Campylobacter fetus ssp. intestinalis -- ovine fetal stomach contents

V. Virology

A. Virus isolation attempts
1. Bovine -- 40 cases; 5 positive 93 IBR and 2 BVD
2. Porcine -- 7 cases; all negative
3. Ovine -- 1 case; negative
4. Bison -- 1 case; negative
B. Fluorescent antibody tests
1. IBR (fetal kidney) -- 20 negative
2. Porcine TGE -- 5 negative
3. Porcine Parvo -- 1 negative

VI. Pathology

A. 595 slides from 2,061 tissues were examined during April

VII. Electron Microscopy

A. Bovine -- 49 negative, 7 corona, 18 rota
B. Porcine -- 1 negative, 4 corona
C. Canine -- 1 negative, 1 parvo
D. Wildlife (pigeon) -- 1 negative

Laboratory Fees - Effective July 1, 1981

The Montana Board of Livestock adopted the proposed laboratory fee system, with several minor alterations, at its regular meeting on May 13, 1981. The Board also proposed to review the effects of this decision after six months.

The fee system is meant to offset some of the laboratory's expenses and is not meant to discourage laboratory usage. Suggestions or complaints relative to the fee system should be recorded and discussed either immediately or, most certainly, during the review process. It is from you, the veterinary practitioners, that we seek input relative to improvements in a new system.

Ovine Abortions

The number of cases of ovine abortion examined at the Diagnostic Laboratory in 1981 increased 30% from the same period in 1980.

The year provided some valuable insights into "sampling bias" regarding these abortions:

#1. When fetus and placenta were submitted, the cause was determined 29% of the time.

#2. When fetus only was submitted, the cause was determined 17% of the time.

#3. When limited tissues and stomach contents were submitted, the cause was determined 0% of the time.

Certainly the laboratory tests performed on each case may fail to establish a diagnosis at any time, but it is clear that the most important factor is sample selection.

It should be noted that the laboratory fee is the same for one tissue, multiple tissues or the entire fetus and placenta in cases of abortion; the results are not the same!

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STATE OF MONTANA

DEPARTMENT OF LIVESTOCK

ANIMAL HEALTH DIVISION

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1981 APRIL & MAY MONTHLY LETTER

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STATE VETERINARIAN

MONTHLY MEANDERINGS

We are a month farther into a quite open winter and spring with a general lack of moisture throughout the state, and critical lack in the eastern counties. This has put, and will continue to exert, a profound influence on cattle numbers and movements.

After talking with quite a few veterinarians around the state and several old clients and other stockgrowers around the country, it is evident that this has been an ideal calving year, with minimal problems. Of course, there have been the usual quota of fetal dystocias but neonatal diarrhea and pneumonia complexes have not been generally severe or widespread. Outbreaks have been local and sporadic mostly. All this leads to the premise that the lack of moisture, unseasonably warm weather and the associated lack of grass all leads to other problems that can and will occur with increased frequency.

It will behoove veterinarians to be vigilant for quite a number of conditions that could occur as a result of drought, e.g., toxic plant poisonings; algae poisonings from stagnant water; various levels of starvation, with associated loss of milk production; increased internal and external parasite problems, as well as high levels of infectious diseases.

One of the real and recurring dangers has been the inexorable march west and south of skunk rabies. It sounds much like a broken record, but the danger is there. Ask Drs. Ken Lee, Ken Harshman, Jim Tooke and an increasing number of animal owners and handlers who have all had to take post exposure rabies treatment.

For the first time, rabies in skunks was diagnosed west of the Divide in Flathead County. Since the initial diagnosis, no further cases have been found. We would still like to have survey cases of skunks west of the Divide.

(A late flash) Dr. Ferlicka just informed me that as of today (4/22/81), we have a confirmed case of skunk rabies in Teton County, exact location still to be determined. What better (or worse) indicator do we need to indicate the dramatic increase in this disease statewide.

PIRATED PROSE

From "CDC Veterinary Public Health Notes", February 1981.

Accidental Poisoning of Children due to Veterinary Drugs

> "An estimated 500,000-2,000,000 children accidentaly ingest potentially toxic substances each year in the United States. Packaging affects the likelihood that a toxic substance will be ingested

by the child. The Poison Prevention Packaging Act of 1970 requires that medical substances and household products be packaged in such a manner as to protect children from serious personal injury resulting from contact with or ingestion of toxic substances. The Act made safety packaging mandatory for aspirin in 1972 and for prescription drugs in 1973. Effective June 2, 1977, the Consumer Product Safety Commission required child-resistant packaging for certain iron-containing preparations. Inherent in these regulations is "the concept that the package is the message."

In contrast to a decrease in poisonings due to aspirin and non-veterinary prescription drugs, there has been an increase in the number and percentage of cases of poisoning due to veterinary drugs and products. This is even more significant if one considers that these numbers represent an underestimate of the problem, since reports are voluntary, and usually only the more serious cases which require medical assistance are counted.

Examples of poisoning in children caused by medications prescribed by veterinarians for animals include the case of a 20-month-old child who ingested approximately 10 digitoxin tablets (0.25 mg) that had been prescribed for a pet dog with a heart problem. Another case involved a 5-year-old boy who suffered organophosphate poisoning due to ingestion of flea dip which had been dispensed in a non-safety bottle. The dip had been sold to the veterinarian in a large container and was subsequently transferred to small bottles. The dispensing of a potentially toxic substance in anything but the original container is hazardous. Also, owners of animals should take the same precautions with medications prescribed for the animals as they would with those prescribed for humans. Both of the above patients required hospitalization after receiving emergency treatment and eventually recovered.

Although veterinary drugs are not included under provisions of the Poison Prevention Packaging Act, veterinarians have a responsibility to warn animal owners of the dangers associated with indiscriminate or careless use of these drugs.

In addition to prescription medications dispensed by veterinary practitioners, there are over-the-counter veterinary products which could be harmful if accidentally ingested or misused. These products, which are usually packaged in non-safety containers, include worming medications, flea and tick preparations such as dips, collars, and sprays, and antibiotic-impregnated pet food.

The New York State College of Veterinary Medicine's Small Animal Clinic is now dispensing all medications in child-resistant safety containers. In addition, veterinary students are encouraged to utilize safety containers after graduation and are apprised of their potential impact in preventing childhood poisoning."

All veterinarians should be aware of their liability incurred when dispensing medication to clients, since the increase in poisonings has been accompanied by an concomitant increase in damage suits.

From the same source -

> "Calf vaccination in the U.S. increased in 1980, up to 5.9 million (head), a 15% increase over 1979."

During the period April 1, 1980 to March 31, 1981, Montana veterinarians have vaccinated 357,406 head of eligible heifer calves (and several steer calves) for brucellosis. This is approximately 6.1% of the total number of heifers vaccinated for brucellosis in the United States.

During the period September 1, 1980 through April 13, 1981, 326,708 head were vaccinated with the reduced dose in Montana. This, I think, is a tremendous effort and it will surely have a marked impact on the number of persistent titers that might occur when this and subsequent crops of heifers reach calving age.

TOXIC GASES OVER LIQUID MANURE SYSTEMS

The following article from CDC's Morbidity and Mortality Weekly Report, April 10, 1981, reminds me of a situation a former client of mine had. He was losing feeder pigs and couldn't find a cause. When I went out, the feeder house stunk like you know what.

His slurry pump had broken down and the manure slurry was within about 4 inches of the floor slats. Quite a number of the pigs were coughing and uncomfortable.

A hole was finally punched through the wall of the slurry pit, the level of the sump was dropped, and as luck would have it, losses in the pigs immediately stopped.

Anyway, peruse the following article and be aware--

> "Since August 1979, CDC has received reports of 8 deaths and 2 cases of near-fatal illness associated with liquid-manure disposal systems on swine and dairy farms. These deaths and illnesses were the result of 3 similar but separate accidents in Iowa, South Dakota, and Utah.
>
> More than 1 death was associated with each accident report. Characteristically, 1 person entered a disposal tank (to retrieve a fallen object in 2 accidents, and to fix a broken pump in the other) and was overcome by fumes within about 30 seconds to 2 minutes. Coworkers attempting rescue without respiratory equipment were also promptly overcome. In each case, survivors and the bodies of persons who died were retrieved from the tanks by local firemen wearing oxygen packs. All the persons involved in these accidents were otherwise healthy; they ranged in age from 18-57 years.
>
> Within a few days of the incident in Utah, state health authorities performed air analyses in an attempt to determine whether

toxic gases had caused the problem. Using the same liquid-manure tank in which the accident had occurred, but allowing much less time for the manure to ferment, they measured a hydrogen sulfide (H_2S) concentration of 76 parts per million (ppm). On the basis of this finding, the H_2S concentration at the time of the accident was estimated to have been greater than 570 ppm. (The National Institute for Occupational Safety and Health (NIOSH) recommends that an average measured concentration of no more than 10 ppm be present during a 10-hour work shift and that areas with levels of greater than 47 ppm be evacuated immediately (1)). During the simulation, the measured oxygen level was somewhat reduced (to 18%), and the carbon dioxide (CO_2) level was slightly elevated (to 2%). Measured levels of ammonia and carbon monoxide were not thought to be high enough to cause sudden collapse. Nitrogen dioxide was not detected."

1. NIOSH. Criteria for a recommended standard: hydrogen sulfide. Washington, D.C.; U.S. Government Printing Office, 1977.

DIAGNOSTIC LABORATORY NEWS

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in February:

	February 1981	February 1980	% change
BOVINE	360	272	32.35%
EQUINE	43	30	43.33%
PORCINE	27	18	50.00%
OVINE	35	17	105.88%
FELINE	31	23	34.78%
CANINE	88	44	100.00%
AVIAN	3	0	300.00%
WILDLIFE	18	6	200.00%
MISC.	20	29	-31.03%
TOTAL	625	439	42.37%

II. Serology

A. Brucellosis (all species) total sera -- 32,797 sera; 22 positive
   1. Brucellosis routine tests -- 23,548 sera; 10 positive
   2. Quarantine herd tests -- 347 sera; 1 positive
   3. Slaughter samples -- 8,883 sera; 11 positive
   4. Seminal plasma - Brucellosis -- 19 negative

B. Brucellosis CF tests -- 416

C. Leptospirosis (all species) -- 401 sera
   1. L. pomona -- 71 positive
   2. L. hardjo -- 34 positive
   3. L. icterohemorrhagia -- 5 positive
   4. L. grippotyphosa -- 16 positive
   5. L. autumnalis -- 30 positive
   6. L. canicola -- 3 positive

D. Bluetongue -- 382 sera; 85 positive

E. Anaplasmosis -- 387 sera; 3 positive

F. IBR -- 277 sera; 61 positive

G. BVD -- 223 sera 18 positive

H. PI_3 -- 125 sera; 41 positive

I. BLV -- 24 negative

J. EIA -- 183 negative

K. Pseudorabies -- 151 sera
   1. Routine -- 15 negative
   2. Slaughter samples -- 136 negative

L. Feline Leukemia Virus -- 4 sera; 1 positive

III. Rabies
  A. 55 requests
    1. Human exposure
      a. 4 positive (2 bovine and 2 canine)
      b. 16 negative
      c. counties -- Phillips and Fallon (canine)
        Blaine and Carter (bovine)
    2. No human exposure
      a. 14 positive (2 feline, 2 canine, 10 skunks)
      b. 21 negative
      c. counties -- Flathead (2 feline, 1 skunk)
        Phillips (1 canine, 5 skunks)
        Sheridan (1 skunk)
        Judith Basin (1 skunk)
        Daniels (1 canine, 2 skunks)

IV. Bacteriology
  A. Total
    1. 380 accessions processed resulting in 272 isolates
  B. Antibiotic sensitivities were run on 233 isolates
  C. FAT (clostridia)
    1. 8 bovine cases; 6 negative; Cl. novyi (1); Cl. sordelli (1)
    2. 1 porcine case; Cl septicum
    3. 3 ovine cases; 1 negative; Cl novyi (1); Cl. septicum (1)
  D. Salmonella
    1. Salmonella carrau - bovine case
    2. Salmonella typhimurium - 2 bovine cases
  E. Brucella
    1. 7 sets of tissues, representing 7 herds, were cultured at the Bozeman laboratory. All were negative.
  F. Miscellaneous
    1. Erysipelothrix rhusiopathiae - 1 porcine case
    2. Escherichia coli agglutinations
      a. K-99 positive -- 9
      b. negative -- 76

V. Virology
  A. Virus isolation attempts
    1. Bovine -- 24 cases; 1 positive BVD
    2. Porcine -- 4 cases; all negative
  B. Fluorescent antibody tests
    1. IBR (fetal kidney)
      a. 101 negative
      b. 3 positive
    2. Porcine TGE -- 1 negative

VI. Pathology
  A. 606 slides from 1,845 tissues were examined during February.

VII. Electron Microscopy
  A. Bovine -- 36 samples; 8 corona; 2 rota; 2 corona and rota
  B. Equine -- 2 samples; all negative
  C. Porcine -- 4 samples; 1 corona; 3 negative
  D. Canine -- 2 samples; 1 parvo; 1 negative

ANTIBIOTIC RESIDUES IN MILK

The following information on antibiotic residues in milk is reprinted from the Michigan State Extension Service Newsletter of February, 1981:

"A dairyman faces fines or eventual loss of his market if antibacterial drug residues appear in his milk. Measures recommended to prevent antimicrobial substances from entering the milk supply include the following:

1. Advise clients on antibiotic usage. Leave legibly-written instructions, including withdrawal times.

2. Follow drug label recommendations for withdrawal times.

3. Advise the farmer to: a) identify treated cows, b) maintain a written record for every treated cow, and c) discard milk from all four quarters per cow, regardless of the number of quarters treated.

4. Avoid dry cow treatment preparations in lactating animals.

5. If a client is in doubt about the residue status of an individual cow's milk, or that in his farm tank, a sample can be evaluated via the Delvotest, (B.G. Fermentation Industries, Inc., Des Plains, Illinois 60016).

   The Delvotest is a cylinder-type modification of the B. stearothermophilus disc method. A color change from yellow to purple in the bacteria growth media constitutes a positive result. The Delvotest is simpler to run and slightly more sensitive than the disc method, is commercially available, accurate, and yields results in less than three hours. Veterinarians and farmers have found the Delvotest valuable for checking milk before its addition to the bulk tank or shipment to the plant.

6. Encourage preventive medicine programs. Improved management may decrease disease incidence and the need for antibacterial therapy."

The standard plate test will still be conducted at the Diagnostic Laboratory.

DIAGNOSTIC LABORATORY NEWS

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in March:

	March 1981	March 1980	% change
BOVINE	443	369	20.05%
EQUINE	73	38	92.10%
PORCINE	18	19	-5.26%
OVINE	50	34	47.15%
FELINE	40	10	300.00%
CANINE	82	45	82.22%
AVIAN	6	3	100.00%
WILDLIFE	26	6	333.33%
MISC.	21	27	-22.22%
TOTAL	759	551	37.75%

II. Serology

A. Brucellosis (all species) total sera -- 24,145 sera; 46 positive
   1. Brucellosis routine tests -- 16,314 sera; 26 positive
   2. Quarantine herd tests -- 315 sera
   3. Slaughter samples -- 7,504 sera 20 positive
   4. Seminal plasma - Brucellosis -- 12 negative

B. Brucellosis CF tests -- 105

C. Leptospirosis (all species) -- 479 sera
   1. L. pomona -- 93 positive
   2. L. hardjo -- 55 positive
   3. L. icterohemorrhagia -- 16 positive
   4. L. grippotyphosa -- 46 positive
   5. L. autumnalis -- 25 positive
   6. L. canicola -- 10 positive

D. Bluetongue -- 574 sera; 214 positive

E. Anaplasmosis -- 379 sera; 8 positive

F. IBR -- 374 sera; 114 positive

G. BVD -- 355 sera; 116 positive

H. PI_3 -- 203 sera; 121 positive

I. BLV -- 33 sera; all negative

J. EIA -- 364 sera; 5 positive

K. Pseudorabies -- 326 sera
   1. Routine -- 47 negative
   2. Slaughter samples -- 279 negative

III. Rabies
  A. 78 requests
    1. Human exposure
      a. 0 positive
      b. 27 negative
    2. No human exposure
      a. 2 positive (skunks)
      b. 49 negative
      c. counties -- Daniels and Hill

IV. Bacteriology
  A. Total -- 532 accessions processed resulting in 401 isolates
  B. Antibiotic sensitivities were run on 299 isolates
  C. FAT (clostridia)
    1. 10 bovine cases; all negative
    2. 1 equine case; negative
    3. 6 ovine cases; 5 negative, 1 Cl.perfringens, type C
  D. Salmonella
    1. Salmonella typhimurium - bovine case
  E. Brucella
    1. 3 sets of tissues, representing 2 bovine herds and 1 bison, were cultured at the Bozeman laboratory. All were negative.
  F. Miscellaneous
    1. Escherichia coli agglutinations
      a. 16 positive
      b. 99 negative
    2. Campylobacter fetus ssp. fetus -- bovine fetal stomach contents
    3. Campylobacter fetus ssp. intestinalis -- 3 ovine fetal stomach contents
    4. Campylobacter fetus ssp. jejuni -- ovine fetal stomach contents

V. Virology
  A. Virus isolation attempts
    1. Bovine -- 49 cases; 2 positive BVD
    2. Porcine -- 15 cases; all negative
  B. Fluorescent antibody tests
    1. IBR (fetal kidney)
      a. 62 negative
      b. 2 positive
    2. Porcine TGE -- 2 negative
    3. Porcine Parvo -- 1 negative

VI. Pathology
  A. 643 slides from 2,040 tissues were examined during March.

VII. Electron Microscopy
  A. Bovine -- 81 samples; 15 corona; 26 rota; 1 rota and corona
  B. Porcine -- 2 samples; all negative
  C. Canine -- 1 sample; negative

BOVINE ENTEROTOXEMIA: A DIAGNOSTIC ENIGMA

Bovine enterotoxemia is a common clinical diagnosis but infrequently confirmed by laboratory examination. The specific etiologic agent is Clostridium perfringens of which there are five types; A, B, C, D, and E. Of these, C and D are most often incriminated as the cause of enterotoxemia. An important fact to consider is that much of the information we have concerning this disease is obtained from sheep and not cattle. Attempts to reproduce the disease in calves have been unrewarding. Feeding cultures of Cl. perfringens types C and D have failed to produce clinical symptoms. [5] Intraduodenal inoculations of both types produced symptoms in only 25% of calves inoculated with type D and none with type C. The mere presence of the organism in the digestive tract is not considered to be solely responsible for the development of the disease. The organism must produce toxins which are absorbed and subsequently result in the condition known as Enterotoxemia.

Enterotoxemia resulting from the toxins of Cl. perfringens type C is characterized as a fatal hemorrhagic enteritis of newborn calves. It is usually limited to animals between one and three days of age. [1] The finding of Cl. perfringens type C in a culture of intestinal contents from an older animal is difficult to interpret and may be insignificant. Laboratory confirmation is difficult in that the toxin is heat labile and is destroyed by trypsin. [6] Intestinal contents must be collected immediately after death and refrigerated followed by rapid delivery to the laboratory. The chance of recovering the toxin from a tied off section of intestine sent through the mail is almost nil!

Type D enterotoxemia results in death often unaccompanied by clinical symptoms. Opinion differs as to the incidence. Some consider the disease to be extremely rare [1] while others report the condition to be of considerable economic importance. [2] Recovery of the toxin has been reported in 7 to 10-week-old calves [4] but attempts to isolate the toxin from feedlot or adult animals has been unsuccessful. [3] Lesions in calves have been described as petechial or ecchymotic hemorrhages on serosal surfaces, epicardium and endocardium. Mesenteric lymph nodes may be swollen and intestinal contents are watery. Unfortunately the lesions are nonspecific and can be seen in a variety of septicemias. Diagnosis of type D enterotoxemia also depends on the isolation of the toxin since the organism can be present without producing disease. Proper handling of specimens is necessary for suspected type D enterotoxemia.

In summary, the true incidence of bovine enterotoxemia is not known. Symptoms and lesions are not pathognomic and can be produced by a variety of other agents. Laboratory diagnosis is based on the identification of toxins and requires fresh, properly prepared material. At least 30 ml of intestinal contents should be obtained as soon after the animal's death as possible and sent to the laboratory in refrigerated containers. Since other neonatal diseases can also produce a syndrome comparable to enterotoxemia, fresh and fixed specimens obtained from intestine, lung, spleen, lymph node, liver and kidney should also be submitted.

1) Proceedings of the Twenty-Second Annual Meeting of the American Association of Veterinary Laboratory Diagnosticians. 1979, pp 33-52.

2) Howard, J.l.: Current Veterinary Therapy. Food Animal Practice. Philadelphia, W.B. Saunders Co., 1981, pp 695-698.

3) Jensen R., Mackley D.R.: Diseases of Feedlot Cattle. Lea and Febiger, 1971, pp 143-147.

4) Griner, L.A., Aichelman, W.W., Brown, G.D.: Clostridium perfringens type D (Epsilon) Enterotoxemia in Brown Swiss Dairy Cattle. JAVMA 129: 375-376, 1956.

5) Niilo L., Moffatt R.F., Avery R.J.: Bovine "Enterotoxemia" II Experimental Reproduction of the Disease. Canadian Veterinary Journal 4: 288-298, 1963.

6) Sakurai J., Duncan C.L.: Some Properties of Beta-Toxin Produced by Clostridium perfringens Type C. Infect. Immun. 21: 678-680, 1978.

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MARCH

MONTHLY LETTER

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ADMINISTRATOR

&

STATE VETERINARIAN

CURRENT EVENTS

Here it is St. Patrick's Day eve, so the annual report to Irishmen is in order. (I don't know why anyone should report to an Irishman, but my wife informed that for my marital well-being, it would be best.)

At any rate, to begin with we'll return to that little known unheard of disease called Brucellosis.

Since the middle of January, the Department has stepped up the control efforts in the Blaine County area.

So far 47 herds comprised of 6,556 head of cattle have been tested, and only 22 vaccinated suspects have been disclosed. No new infection has been diagnosed and several herds have been released so that at present we have 5 herds in Blaine County under quarantine, 1 each in Lake, Fergus, and Treasure, for a total of 8.

Presently, the Bangs picture doesn't look quite as bleak as we had imagined. With the continuing cooperation of the ranchers that we have been getting and the cooperation and assistance that we've received from veterinarians, we might be able to make the Class A status shortly after January 1, 1982.

Now for a change of pace, here's Scabies

This is the fourth spring that Montana has battled the importation of Scabies.

We have had a recent alert from Idaho concerning cattle that were pastured in Wyoming last summer and subsequently were diagnosed as being infested with Psoroptic Scabies.

Cattle from a Grazing Association in Northern Montana were in across the fence contact with these cattle in Wyoming.

All of the Association cattle that had returned to Montana were inspected last week by Department personnel and no evidence of Scabies were found.

Once again, maybe we have lucked out!

The worst part of the whole inspection trip was the condition of the country. That Northern Phillips County and the other areas I've seen this spring north and east of here look like the middle of a hot dry August.

If anyone knows anyone with a pipeline to the "Rain Gods", we all ought to think about holding a dance.

Come to think of it, we ought to maybe caper a bit for the gods of cattle pricing too.

DIAGNOSTIC LABORATORY NEWS

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in January:

	January 1980	January 1981	%change
BOVINE	254	239	-5.9%
EQUINE	32	39	21.8%
PORCINE	21	15	-28.5%
OVINE	13	14	7.6%
FELINE	8	24	200.0%
CANINE	43	79	83.7%
AVIAN	2	6	200.0%
WILDLIFE	11	19	72.7%
MISC.	24	29	20.8%
TOTAL	408	464	13.7%

II. Serology

A. Brucellosis (all species) total sera -- 33,232 sera; 41 positive
   1. Brucellosis routine tests -- 20,468 sera; 3 positive
   2. Quarantine herd tests -- 2,288 sera; 18 positive
   3. Slaughter samples -- 10,471 sera; 20 positive
   4. Seminal plasma - Brucellosis -- 5 negative

B. Brucellosis CF tests -- 494

C. Leptospirosis (all species) -- 456 sera
   1. L. pomona -- 104 positive
   2. L hardjo -- 121 positive
   3. L. icterohemorrhagia -- 53 positive
   4. L. grippotyphosa -- 55 positive
   5. L. autumnalis -- 8 positive
   6. L. canicola -- 34 positive
   7. L. tarassovi -- 1 positive

D. Bluetongue -- 671 sera; 85 positive

E. Anaplasmosis -- 699 sera; 3 positive

F. IBR -- 303 sera; 62 positive

G. BVD -- 155 sera; 16 positive

H. PI_3 -- 145 sera; 34 positive

I. BLV -- 143 sera; 1 positive

J. EIA -- 222 sera; 1 positive

K. Pseudorabies -- 457 sera
   1. Routine -- 136 all negative
   2. Slaughter samples 321 all negative

L. Feline Leukemia Virus -- 4 negative

III. Rabies
  A. 24 requests
    1. Human exposure
      a. 0 positive
      b. 9 negative
    2. No human exposure
      a. 5 positive (skunks)
      b. 10 negative
      skunks -- Phillips, Blaine, Sheridan and Daniels (2) counties

IV. Bacteriology
  A. Total
    1. 254 accessions processed resulting in 288 isolates
  B. Antibiotic sensitivities were run on 191 isolates
  C. FAT (clostridia)
    1. 4 bovine cases; 2 negative, 2 positive Cl. novyii
  D. Salmonella
    1. Salmonella dublin - bovine case
    2. Salmonella schwarzengrund - bovine case
  E. Brucella
    1. 10 sets of tissues, representing 10 herds were cultured at the Bozeman laboratory. 8 were negative. 2 were positive for Brucella abortus, Type I.

V. Virology
  A. Virus isolation attempts
    1. Bovine -- 19 cases; all negative
    2. Porcine -- 3 cases; all negative
    3. Wildlife (elk) -- 1 case; negative
  B. Fluorescent antibody tests
    1. IBR (fetal kidney)
      a. 72 negative
      b. 3 positive
    2. IBR (fetal spleen)
      a. 1 negative
      b. 1 positive
    3. IBR (fetal lung)
      a. 1 negative
    4. Equine fetal kidney
      a. 1 negative
    5. Porcine Parvovirus
      a. 1 negative

VI. Pathology
  A. 497 slides from 1,527 tissues were examined during January.

VII. Miscellaneous tests
  A. Electron Microscopy
    1. 6 bovine - 3 rotavirus
    2. 4 porcine - 1 coronavirus
    3. 1 avian - negative
    4. 1 wildlife (eagle) - pox virus

ADDITIONAL CANINE AND FELINE TESTS

We frequently receive requests for canine and feline serologic tests for which we do not have established capability. We have recently established an account with SPECIALIZED ASSAYS of Nashville, TN and are now referring samples. So far the turnaround time has been excellent. We will bill you for the cost of the test; charges range from $3.50 to $15.00 but the majority of tests cost $8.00. Examples of tests include: Thyroid profile, T4, T3, TSH, cortisol, dilantin, digoxin, FLV, FIP, FIA, FVR, FCV, Panleukopenia, coccidiomycosis, cryptococcosis, histoplasmosis, blastomycosis, toxoplasmosis, Coombs test, rheumatoid arthritis, canine SLE, distemper, adenovirus, parainfluenza, herpesvirus, parvovirus and coronavirus. For specific information regarding samples to be submitted and exact costs, please call the laboratory. Larger practices dealing exclusively with pet animals may wish to establish their own accounts and there is nothing to prohibit them from doing so.

SEROLOGY TITERS

BY C.D. PETERSON, DVM, PhD

Because of the large number of calls we receive from producers wondering what to do about positive titers in some of their animals, we are taking a two-step approach to the problem. The first step is to explain to the producer in layman's terms, what titers really mean. An article on this subject will appear in the Montana Farmer-Stockman on March 5, 1981. Our second step is telling you, the veterinarian, what we would like you to tell your clients and what we tell them when we talk to them. Additionally we will be adding the following statement to all serology reports:

> Positive serology titers indicate exposure to the causative agent and/or recent vaccination. This titer may or may not be clinically significant depending upon results obtained from a submitted paired serum sample.

I will specifically point my remarks to titers for Leptospirosis, but from a general standpoint they can be applied to other serological titers (i.e., BVD, IBR, PI3). Let me make it abundantly clear, a titer of 1:50 means absolutely nothing! It is only a relative value, a place to start. Personally I really doubt that the test is really accurate at this dilution. Three general statements can be made regarding a titer of 1:100; first, it could be interpreted as a residual titer to a previous infection; second, it could mean an early response to a current infection; and lastly, it may be an early response to vaccination. Titers of 1:100, 1:200 and 1:400 may

be of significance in unvaccinated animals, but if these were unvaccinated animals going through an active phase one would like to see titers over 1:1000 before making a prediction. Again even a titer of over 1:1000 could be questionable if the animals were vaccinated in the last 2-3 months. So, even if we have evidence that the titers were in the range of 1:400, 1:800 or 1:1600 we still cannot make a diagnosis unless we know the producer well and can verify a history of recent vaccination.

I personally would still not make a diagnosis unless there was evidence that the paired serum samples showed a four-fold increase or decrease. This last statement certainly can be applied to interpretation of most serology titers. So, if we have a four-fold titer change in paired serum samples (collected 14-21 days apart) we can feel confident in making a definitive diagnosis. However, do not get the idea that single samples are entirely worthless. They are of value from the standpoint of getting background information on the herd (verification of vaccination or nonvaccinates). But at no time should single samples be utilized for definitive diagnoses.

Sample size is somewhat of a problem but here a good rule of thumb is to sample at least 10% of the herd or on smaller herds a minimum of 10 animals. If you have sampled 10% of the herd or 10 animals, then please indicate such on your serology request and we will test all samples. However, if you bleed the entire herd and submit all the blood we will randomly select 10% and run those samples.

In summary, one should be cautious in the use of serology titers for definitive diagnostic purposes. Single samples are of little value in diagnosis but helpful in obtaining herd background information. Four-fold increases or decreases of titers from paired serum samples should greatly aid in a definitive diagnosis or rationale for implementing a sound vaccination program.

ROUTINE TESTING FOR SCOURS

BY C.D. PETERSON, DVM, PhD

On a routine basis we now utilize set procedures when dealing with calf scours or piglet scours. Please note that a number of these tests are based on age. If you do not put down the correct age, we can only guess the age, therefore, limiting the tests we might run. We will still, however, honor any particular tests you require but we will also do the other routine tests outlined below with the exception of the EM scan for virus particles. You must still indicate that you specificially want these because of the cost involved in these scans.

The following tests are performed on all scouring calves we receive:

1. Salmonella
   a. Done on all calves regardless of age
   b. Requires intestinal contents

2. Rotavirus (EM)
   a. Done on calves up to four days of age
   b. Requires fecal swab or fecal sample preferably from the jejunum.

3. Coronavirus (EM)
   a. Done on calves five days to six weeks old
   b. Requires the same as rotavirus

4. E. coli
   a. Done on calves up to ten days of age.
   b. Requires jejunum content or the jejunum tied off
   c. We also do a slide agglutination test to test for the presence of K-99 antigen (tells if the E. coli is enterotoxigenic).

5. Cryptosporidia *
   a. Done on calves up to eight weeks of age
   b. An ileocecl mucosal scraping is required or a section of the ileocecal area tied off.

*This organism has recently been incriminated in Idaho in an outbreak of diarrhea in lambs.

The following tests are performed on all scouring piglets we receive:

1. Salmonella
   a. Routinely done on pigs under ten days of age.
   b. Requires intestinal contents

2. E. coli
   a. Routinely done on pigs up to ten days of age.
   b. Requires jejunum contents or the jejunum tied off.
   c. We use a slide agglutination test and test for the presence of K-99, K-88, and 987P, the enterotoxigenic strains in pigs.

3. Campylobacter sputorum subs. mucosalis (Vibrio-old name)
   a. Routinely done on all pigs received; want to find out prevalance of this organism here in Montana.
   b. Requires ileocecal mucosal scraping or tied off ileocecum.

4. Treponema hyodysenteria
   a. Routinely done on feeder pigs only
   b. Requires a smear of colon or colon tied off.

5. Transmissible Gastroenteritis (TGE)
   a. Routinely done on all diarrheic piglets
   b. Require jejunum, tied off.

6. Coccidia species
   a. Routinely done on all diarrheic pigs 10-14 days of age.
   b. Requires a wet smear of digestive tract or tied off GI tract.

A section of jejunum, ileum and colon, in both the calves and piglets will be taken for histopathologic studies. Additionally if a pig has just been weaned or weaned for about one week we'll check these for E. coli.

In summary, please be specific about the age of the animal and send in only fresh specimens.

RABIES SURVEY

In the past month or so, there have been two positive rabies diagnoses in cats from Flathead County. These are the first cases of domestic animal rabies reported from there.

The first assumption was that the most likely etiology would be bats, but with subsequent events a local resident skunk was diagnosed positive for rabies.

In light of this, the Animal Health Division asks all practitioners west of the mountains to submit skunk heads for survey of rabies incidence.

In all cases, domestic & wild, veterinarians should be especially careful with differential diagnoses.

During the past month, nine humans including five veterinarians have been exposed to positive rabies cases and are presently under treatment or are receiving booster immunizations.

As a result of positive rabies, both Phillips and Flathead counties have been placed under rabies quarantines.

RACCOON RABIES--FLORIDA

The following is an excerpt from the December 1980 issue of the "CDC Veterinary Public Health Notes."

"On April 25, 1980, rabies was confirmed by fluorescent antibody (FA) test in a pet raccoon that had had contact with 150 children and adults during the previous 7 months. The animal had exhibited the first signs of illness on April 21.

Exposure histories were obtained for persons who had had contact with the animal in the 60 days before it became ill, and postexposure prophylaxis with human rabies immune globulin (HRIG) and duck embryo vaccine (DEV) was recommended for 74 persons. Forty-three were males and 31 were females; ages ranged from 10 to 63 years, with 72% in the 13-15 age range. Of the 74 exposures, 52 (70%) occurred at school, 9 (12%) at

home, 1 (1%) in another setting, and 12 (16%) unknown. Seventy-one persons received a complete postexposure vaccination series of HRIG and 23 doses of DEV. The 74 exposures included bites (10 persons), scratches (23), licks (17), petting only (16), other (including feeding, holding, or touching the animal) (6), and unknown (2). No serious reactions were reported, and no deaths have occurred.

On September 15, 1979, the raccoon had been found in the woods of Okaloosa County, Florida, and had been taken into a home. A pet collar was placed on its neck. However, the animal was soon released, but it stayed in the general vicinity begging for food. On November 15, a nearby shopkeeper and his wife, noting the raccoon's collar and assuming that it was someone's lost pet and therefore safe to keep, took it in as a house pet.

After November 15, the raccoon remained in captivity and was not free to roam, except when it escaped for a 24-hour period during the first week of January 1980. On April 21, the raccoon began to exhibit aggressive behavior, anorexia, choking, and staggering, and it was taken to a veterinarian. It bit the veterinarian and his assistant before it was killed and examined. FA tests of brain material were positive for rabies. The animal had never been vaccinated.

Exposure to this rabid animal resulted in a estimated minimum cost of $21,624, a total that did not include the time of state and federal epidemiologic and laboratory personnel. The breakdown included the administration of 554 ml of HRIG at $18.29 per ml, or $10,132, plus 1,883 doses of DEV at $2.97 per ml or $5,592. The estimated costs for physicians, nurses, and local epidemiologic investigators' time were $4,440 ($60 minimum per exposed person). In addition, the estimated cost per person counseled but not exposed was $20 ($1,460 total)."

House Bill 152, "An act to minimize transmission of rabies by prohibiting the possession of bats, skunks, foxes, or raccoons and providing for prohibition of possession of certain other animal species known to be capable of transmitting rabies to human beings; and providing an exemption for such animals that are possessed for six months prior to January 1, 1982", is scheduled for hearing on March 14th and hopefully Montana will have some relief from these kinds of mistakes.

* * * * * * * *

I received the following items from Dr. D. A. Armstrong of Ft. Shaw on a variety of subjects and I'll include them for your information and interest.

RESPITORY SYNCYTIAL VIRUS

One Nebraska practitioner has a series of slides depicting this disease in calves at weaning. The calves had sublingual - intermandibular edema. He said he never noticed it until he started to review his slides. It would be interesting to see if this is typical of this virus.

SWEET FEEDS & CLOSTRIDUIM PERFINGENS

Many of the newer feed additive antibiotics have good activity on Clostridia in the gut. Virginiamycin is the one I am most familiar with. In the pig it virtually eliminates all GI Clostridia. Foals might be protected from this malady if Virginiamycin was added to the feed. Since there is no label claim and/or clearance it would have to be on the order of a veterinarian.

DIAGNOSIS OF ENTEROTOXEMIA IN FEEDER CATTLE

Several years ago the academy of veterinary consultants had as a speaker the scientist from Burroughs - Welcome, who had developed Electroid 7 and also had coinvestigated Clostridial diseases on three continents. Dr. Batte taught us that if we wanted a positive Cl. perfringens diagnosis by displaying toxin, we must strain the gut contents of the affected area through a gob of cotton into a wide mouth jar. Without straining, the toxin invariably breaks down on the way to the lab.

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1981
FEBRUARY
MONTHLY LETTER

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STATE VETERINARIAN

BRUCELLOSIS AND THE REDUCED DOSE

The seemingly, never ending bout with brucellosis continues but at least I feel there is one major improvement, the reduced dose. Presently our yo yo infected herd tally is back up to nine, with disclosure of several herds coming off of the Fort Belknap Reservation this fall.

Efforts to control and rid ourselves of the problem are partially sucessful but progress has been hindered due to the irregular availability of Federal depopulation indemnity money. About the time an owner gets talked into depopulating, we have no money (Federal) available and the state has never paid indemnity on depopulations.

This again is one of the reasons that support for a state indemnity funding bill is being solicited by the Montana Stockgrower's Association.

About the reduced dose -----, from July 1, 1980 through January 8, 1981 all of you practitioners have vaccinated a total of 206,523 head of heifer calves for brucellosis, and all but possibly 4,500 head of those, were done with the reduced dose.

The last fiscal year (July 1, 1979 to June 30, 1980) a total of 325,810 head of heifers were vaccinated, October through February being the heaviest vaccination months.

This past December 91,000 head were vaccinated. On the last fiscal year's tallies, February was still heavy, almost 37,000 head, and March, April, May and June with 12, 10, 5, and 14 thousand head respectively.

No wonder I'm losing my hair and whats left is getting gray. At least a few of those heifers were probably getting a little agey by the time they hit the end of the needle.

We have one set of test charts in which heifer calves from an infected herd were vaccinated in late September with the reduced dose and were Bangs tested in December and there was not a glimmer in the titer department.

Here again that sainted reduced dose, I'm certain, is going to cure those residual vaccinal titer problems. If not, I'm certain I'll end up in the Laughing Academy sorting flies.

If the weather holds as nice as its been so far, we might end up with 400,000 or more heifers having been vaccinated in the state this fiscal year. As far as I'm concerned that's what we want, more heifers immune to Brucellosis.

Just think, on down the line sometime, someone in the federal service is liable to come up with the astounding concept that possibly these cattle should be boostered at some time or times in their lives, (with maybe a further reduced dose) and increase their protection and possibly even use Brucellosis vaccine intelligently, and for the purpose for which it was developed.

MINNESOTA ANAPLASMOSIS REQUIREMENTS

Minnesota has notified us that all cattle over 6 months of age going to that state are subject to test for anaplasmosis.

If blood has been drawn, a permit may be obtained by calling the Minnesota State Veterinarian and then the cattle can be sent to the state pending results.

ALASKA HEALTH CERTIFICATES & PERMITS

The State of Alaska Animal Health Programs has recently undergone reorganization. Therefore, in the future, please forward health certificates, requests for permits, or correspondence pertaining to health certificates to the following address:

Office of the State Veterinarian
P. O. Box 1088
Palmer, Alaska 99645

Telephone number for permits or health certificate information is:

(907) 745-3236

MORE RABIES!

With the warm snowless winter, the skunk population of the state is out and about and causing an unusual number of exposures for this time of year.

Practitioners especially in the eastern half of the state should remain aware and alert.

There is an interesting article in the November issue of CDC's Veterinary Public Health News.

The first case of rabies in the nation's history was reported in Norway in March of 1980. Subsequently, fifteen additional cases were reported, all sixteen of which were reportedly on the island of Svaland.

One of these cases was in a seal, the first known case of rabies in a marine mammal. So if your seal practice is increasing ---- again be alert.

CANADIAN IMPORTS

There are three items pertaining to Canadian imports that need to be aired.

First: The Canadian government has changed their requirements on identification. Starting immediately all cattle must be identified with 81 series identification tags. A breed registry tattoo is no longer recognized as a permissable identifier.

Second: With apologies to Dr. Brewster, I inserted an article in the January 1981 Newsletter concerning importation of slaughter cattle, sheep, & goats into Canada.

This article was sent out by Health of Animals & I failed to make changes necessary for it to apply to us.

So here goes----------

All slaughter cattle, sheep, goats exported for Canadian destinations can move through any port where Health of Animals maintains inspection. No health certificate is required. The shipment need not stop through The U.S.D.A. animal health ports so that shipments can be made through Sweet Grass/Coutts, Morgan/Monchy, Portal/North Portal, Opheim/W. Poplar, Raymond/Regway.

Third: This is in reference to certifying semen to countries requiring a negative herd test for Brucellosis at 1:25 dilution. West Germany is one country that requires this test. Care should be taken to assure that all bulls in the stud have been tested negative at 1:25. Routine herd tests may have been conducted at the 1:50 dilution and the status of the 1:25 dilution is not known. Endorsement of export health certificates (17-140) should not be made unless all the bulls and teaser animals are tested at negative 1:25.

If any questions arise, you can call the Veterinary Services Office here in Helena and Dr. Houle or Dr. Patterson can clarify all of my mistakes.

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in December:

	December 1980	December 1979	% Change
BOVINE	270	213	26.76%
EQUINE	27	22	22.72%
PORCINE	23	19	21.05%
OVINE	11	5	120.00%
FELINE	22	7	214.28%
CANINE	75	25	200.00%
AVIAN	4	2	100.00%
WILDLIFE	7	14	-50.00%
MISC.	29	25	16.00%
TOTAL	468	332	40.96%

II. Semi-annual comparison of accessions:

	FY 1980	FY 1979	% change
BOVINE	922	731	26.13%
EQUINE	201	147	36.73%
PORCINE	115	114	00.87%
OVINE	64	47	36.17%
FELINE	96	95	1.05%
CANINE	422	253	66.80%
AVIAN	52	47	10.64%
WILDLIFE	306	244	25.41%
MISC.	245	147	66.66%
TOTAL	2423	1825	32.77%

III. Serology (December)

A. Brucellosis (all species) total sera -- 49,564 sera; 208 positive
   1. Brucellosis routine tests -- 35,368 sera; 54 positive
   2. Quarantine herd tests -- 1,490 sera; 30 positive
   3. Slaughter samples -- 12,700 sera; 124 positive
   4. Seminal plasma - Brucellosis -- 6 negative

B. Brucellosis CF tests -- 2,339

C. Leptospirosis (all species) -- 512 sera
   1. L. pomona -- 103 positive
   2. L. hardjo -- 34 positive
   3. L. icterohemorrhagia -- 111 positive
   4. L. grippotyphosa -- 39 positive
   5. L. autumnalis -- 19 positive
   6. L. canicola -- 18 positive
   7. L. tarassovi -- 1 positive

D. Bluetongue -- 689 sera; 39 positive

E. Anaplasmosis -- 735 sera; 7 positive

F. IBR -- 400 sera; 133 positive

G. BVD -- 455 sera; 35 positive

H. PI_3 -- 98 sera; 29 positive

I. BLV -- 54 sera; all negative

J. EIA -- 111 sera; all negative

K. Pseudorabies -- 275 sera
   1. Routine -- 43 all negative
   2. Slaughter samples -- 232 all negative

L. Feline Leukemia Virus -- 6 sera; 2 positive

IV. Rabies
   A. 16 requests
      1. Human exposure
         a. 0 positive
         b. 8 negative
      2. No human exposure
         a. 2 positive (skunks)
         b. 6 negative
         Skunks -- Sheridan and Daniels counties

V. Bacteriology
   A. Total
      1. 261 accessions processed resulting in 222 isolates
   B. Antibiotic sensitivities were run on 188 isolates
   C. FAT (clostridia)
      1. 8 cases -- all negative
      2. 6 bovine, 1 porcine, 1 ovine
   D. Salmonella
      1. Salmonella typhimurium - 1 bovine case
   E. Brucella
      1. 11 sets of tissues, representing 7 herds, were cultured at the Bozeman laboratory; all were negative
      2. Random sampling of tissues from two buffalo cows, representing one herd from South Dakota, were cultured at the Bozeman laboratory; both were negative
   F. Miscellaneous
      1. Bordetella bronchiseptica - 2 porcine cases
      2. Campylobacter fetus subspecie fetus - 4 bovine cases (3 cervical mucus and 1 fetal abomasal contents)
      3. Erysipelothrix rhusiopathiae - 1 porcine case
      4. Moraxella bovis - 4 bovine cases

VI. Virology
   A. Virus isolation attempts
      1. Bovine -- 36 cases; 7 positive IBR, 4 positive BVD
      2. Porcine -- 8 cases; all negative
   B. Fluorescent antibody tests
      1. IBR (fetal kidney)
         a. 2 positive
         b. 30 negative

VII. Pathology
   A. 314 slides from 774 tissues were examined during December.

VIII. Miscellaneous tests
   A. Electron Microscopy
      1. 4 bovine - 1 rotavirus
      2. 3 canine
      3. 1 porcine

We are approaching the calf scours season and would like to remind you of a few points regarding sample submission.

Electron microscope scans for rotavirus and coronavirus are available; the fee is $10.00 per specimen. You must request this test specifically; please specify "EM Scan" on the submittal form. Necropsy samples should include intestinal content. Samples from live animals should include fecals (preferred) or rectal swabs (2 from each animal).

The age of the animals involved should always be included on the submittal form. The types of bacterial culturing performed and the interpretation of culture results are dependent on the age of the animal. If you expect significant results, you should supply adequate histories.

SUBMIT ENTIRE PAGE SUBMIT ENTIRE PAGE SUBMIT ENTIRE PAGE SUBMIT ENTIRE PAGE

Program Announcement

FIFTH ANNUAL SYMPOSIUM ON VETERINARY PATHOLOGY JUNE 15 thru 19, 1981

THE CONTINUING EDUCATION DIVISION In Cosponsorship With MONTANA VETERINARY DIAGNOSTIC LABORATORY &
Dr. William J. Quinn, Program Director MONTANA VETERINARY RESEARCH LABORATORY
Dr. J. A. Bergeron, Asst. Program Director

MAKE CHECKS / MONEY ORDERS FOR REGISTRATION FEES PAYABLE TO THE C. L. DAVIS, D.V.M., FOUNDATION

The Continuing Education Division in cosponsorship with the Montana Veterinary Diagnostic Laboratory & the Montana Veterinary Research Laboratory will present a SYMPOSIUM ON VETERINARY PATHOLOGY from 6 PM 14, June through 5 PM 19, June 1981. The program has been designed for the benefit of individuals engaged in the informal or formal postgraduate study, practice or teaching of veterinary or comparative pathology or related scientific disciplines as well as the practicing veterinarian. It will be held at the RAMADA INN in Bozeman, Montana, the home of Montana State University. Bozeman is located on the western slopes of the Bridger Mountains at an elevation of 4,800 feet. Northwest and Frontier airlines serve Bozeman. Yellowstone National Park is 90 miles away and Glacier National Park is 300 miles away. The REGISTRATION FEE does not include lodging or meals, however, arrangements have been made with the RAMADA INN to provide 15 buffet meals and 5 nights lodging for $182.50 double occupancy or $227.50 single occupancy. The RAMADA INN also provides courtesy bus service to and from the airport. The National Collegiate Finals Rodeo will be held in Bozeman June 16-20, 1981; THEREFORE, reservations for lodging should be made as early as possible. Reservations for lodging should be made by contacting Dr. J. A. Bergeron, P.O. Box 997, Bozeman, Montana 59715, [406] 586-5952. Information packets for those interested in knowing more about the area may be obtained by contacting Dr. Bergeron. The schedule for the symposium is as follows: [All lectures during the day are 4hrs, and during the evening are 3 hrs]

SUNDAY 14 June: Dinner; ORIENTATION [Drs. W. J. Quinn, J. A. Bergeron, S. W. Thompson] - MONDAY 15 June; Breakfast; DISEASES DUE TO POISONOUS PLANTS [Dr. K. R. Van Kampen, Medtronic Inc.], Lunch, PERSISTENT VIRUS DISEASES [Dr. W. J. Hadlow, Rocky Mt. Lab.], Dinner, DISEASES CAUSED BY PROTOZOA [Dr. J. P. Oubey, Montana State Univ.] - TUESDAY 16 June; Breakfast; DERANGEMENTS OF BLOOD & BONE MARROW [Dr. A. H. Rebar, Purdue University], Lunch, ULTRASTRUCTURAL PATHOLOGY [Dr. W. R. Richter, Internat'l Res. & Dev. Corp.], Dinner, COMPARITIVE ORTHOPEOIC PATHOLOGY [Dr. D. W. Young, Montana State Univ.] - WEDNESDAY 17 June; Breakfast; GENERAL DIAGNOSTIC PATHOLOGY [Dr. J. E. Cook, Kansas State Univ.], Lunch, MYCOTIC DISEASES [Dr. C. H. Bridges, Texas A & M Univ.], No Host Cocktail Hour, Dinner, Social Evening - THURSDAY 18 June; Breakfast; INFLAMMATION & IMMUNOPATHOLOGY [Dr. L. Schwartz, Univ. of California], Lunch, RENAL PATHOLOGY [Dr. H. W. Casey, [ToxiGenics Inc], Dinner, NATIONAL COLLEGIATE FINALS RODEO - FRIDAY 19 June; Breakfast; DISEASES OF RANGE CATTLE [Drs. W. J. Quinn, J. A. Bergeron & L. L. Stackhouse, Montana State Univ.], Lunch, LOCAL TOUR OF MONTANA STATE UNIV. INCLUDING VETERINARY LABORATORY FACILITIES [Drs. W. J. Quinn & J. A. Bergeron]

AN APPLICATION FORM IS REQUIRED OF ALL INDIVIDUALS WHO DESIRE TO ATTEND THE SYMPOSIUM, WITHOUT EXCEPTION. The Application Form appears below. SUBMIT THE ENTIRE PAGE. Use the preaddressed envelope attached to this Newsletter to forward the Application to the Foundation. APPROVED APPLICATIONS CANCELLED AFTER 15 MAY WILL HAVE A $15 FEE DEDUCTED FROM ANY REFUND. APPLICATIONS POSTMARKED AFTER 15 MAY MUST BE ACCOMPANIED BY A $5 LATE FEE IN ADDITION TO THE REGULAR REGISTRATION FEE.

I hereby make application to enroll as a Participant in the SYMPOSIUM ON VETERINARY PATHOLOGY, June 15 - 19, 1981 and agree to hold the Foundation, its officials and program sponsors or their agents free from any damage or complaint by reason of any action they, or any one of them may take in connection with this application. [CHECK APPROPRIATE REGISTRATION FEE] [ ] NON-MEMBER - $125; [ ] MEMBER or AFFILIATE MEMBER which is not prepaid and requires the Foundation to submit an invoice for payment - $125; [ ] MEMBER or AFFILIATE MEMBER whose payment accompanies this application - $75; [ ] MEMBER OF THE NATIONAL PROGRAM DIRECTORATE OF THE FOUNDATION - $ 0; [ ] MEMBER OF THE SITE SPONSOR'S STAFF - $ 0. NOTE: Application of Affiliate Member or Site Sponsor's Staff must be countersirned by Dept. Head or the Program Director as appropriate:

Signature of Dept. Head or Program Director:_____

TYPE OR BLOCK PRINT ALL ENTRIES GIVEN BELOW:

APPLICANT'S NAME:_____ DEGREES:_____

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[Street] [City] [State/Province] [ZIP]

DATE OF APPLICATION:_____ SIGNATURE OF APPLICANT:_____

REG. FEE OF_____ REC'D. DATE:_____ [ ] APPROVED [ ] DISAPPROVED: NAT'L PROGRAMS SEC'Y:_____

MAIL ALL APPLICATIONS TO:

National Programs Secretary: B.J. Thompson, M.A., Primrose Trail-Mt. Kemble Lake, Morristown, New Jersey 07960 (201) 766-7894

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ANIMAL HEALTH DIVISION
HELENA, MONTANA 59620

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MONTHLY LETTER

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ADMINISTRATOR
&
STATE VETERINARIAN

IDENTIFICATION OF BLOOD TUBES

Again this fall, there are large numbers of blood samples being sent to the laboratory for Brucellosis and other sero tests.

Again at times, due to a small number of veterinarians' inattention to detail, confusion can reign at the laboratory.

Ike Sheehan received two series of bleeders from the same veterinarian. Each series numbered 1-234 and 1-304. Now no Station Forms were sent in each box and both sets of boxes were labeled 1 of 3, 2 of 3, etc.

As matters always work out Murphy's law prevailed. In the boxes containing tubes 101-200, one series contained 6 reactors.

Poor old Ike is getting white haired and madder trying to figure out which series the reactors belong to. Both series are from Bang's country and consequently both bunches can be suspect.

When blood samples are submitted to the laboratory each box in every shipment must contain a Station Form M-202 identifying blood tubes by owner, numbers and bleeding code. If this is done then there won't be any confusion when the blood hits the laboratory.

Also, if a practitioner will serially number tubes #1-1000 rather than starting each head series with #1 then chances of conflict are also lessened.

At any rate the serology laboratory has enough to do and enough problems to face, without conflicts caused by submitting veterinarians lapses.

ILLINOIS PERMIT REQUIREMENTS

We have received a number of notices from the State of Illinois regarding their current import permit requirement. When writing health certificates on cattle to Illinois, a permit must be obtained on untested heifers, six months of age and over going into the state for feeding purposes.

IMPORTATION OF CATTLE, SHEEP AND GOATS INTO CANADA FROM U.S.A. FOR IMMEDIATE SLAUGHTER

"In the past, U.S.D.A. export requirements have stated that all animals being exported from the U.S.A. must receive U.S.D.A. Veterinary Inspection and certification prior to such export. This is no longer the case, following the removal of DES restrictions on live Cattle, Sheep and Goats be accompanied by a Health Certificate when they are being imported for immediate slaughter and, therefore, Veterinary Services, U.S.D.A. has waived the U.S. Requirements for inspection prior to export, and no Health Certificate will be issued by the U.S.D.A.

These animals do, however, require Veterinary Inspection by one of our Officers at the Port of Entry, and the truck must be sealed and licensed to a Slaughter Plant under Federal Inspection.

It would be prudent to advise importers to utilize Ports of Entry where facilities exist for the unloading of imported slaughter animals in the event that this will be necessary for inspection. This would limit such shipments to North Portal or Monchy, in this Region."

Source: Agriculture Canada Circular No. 80-723.1-152, dated December 1, 1980.

ANNUAL SPRING CONFERENCE FOR VETERINARIANS

Dr. Richard L. Ott, Washington State University, has requested that the following information be related to Montana veterinarians:

> March 26-28, 1981. Annual Spring Conference for Veterinarians, Washington State University. Contact Marlene Baldwin or Barbara Robbins, College of Veterinary Medicine, Office of Student Services, 130 Veterinary Science Building, Pullman, Washington 99164; (509) 335-1531.

DIAGNOSTIC LABORATORY NEWS

By:
J. A. Bergeron, V.M.D.
B. Kraft

I. Accessions reported out in November:

	November 1980	November 1979	% change
BOVINE	138	161	-14.28%
EQUINE	25	23	8.69%
PORCINE	18	18	
OVINE	5	7	-28.57%
FELINE	17	15	13.33%
CANINE	71	29	144.82%
AVIAN	7	7	
WILDLIFE	12	13	-7.69%
MISC.	25	13	92.30%
TOTAL	318	286	11.18%

II. Serology

A. Brucellosis (all species) total sera -- 54,910; 155 positive
   1. Brucellosis routine tests -- 43,088 sera; 8 positive
   2. Quarantine herd tests -- 1,162 sera; 21 positive
   3. Slaughter samples -- 10,655 sera; 126 positive
   4. Seminal plasma - Brucellosis -- 5 negative

B. Brucellosis CF tests -- 889

C. Leptospirosis (all species) -- 655 sera
   1. L. pomona -- 147 positive
   2. L. hardjo -- 14 positive
   3. L. icterohemorrhagia -- 101 positive
   4. L. grippotyphosa -- 18 positive
   5. L. autumnalis -- 22 positive
   6. L. canicola -- 12 positive

D. Bluetongue -- 488 sera; 19 positive

E. Anaplasmosis -- 392 sera; 1 positive

F. IBR -- 188 sera; 41 positive

G. BVD -- 127 sera; 34 positive

H. PI_3 -- 71 sera; 37 positive

I. BLV -- 189 sera; all negative

J. EIA -- 147 sera; all negative

K. Mare Immunological Pregnancy Test -- 1 negative

L. Pseudorabies -- 945 sera
   1. Routine -- 112; 5 toxic
   2. Slaughter samples -- 833; 179 undetermined

M. Feline Leukemia Virus -- 1 positive

III. Rabies
   A. 31 requests
      1. Human exposure
         a. 0 positive
         b. 21 negative
      2. No human exposure
         a. 3 positive (skunks)
         b. 7 negative
         Skunks -- Phillips, Sheridan and Daniels counties

IV. Bacteriology
   A. Total
      1. 171 accessions processed resulting in 195 isolates
   B. Antibiotic sensitivities were run on 171 isolates
   C. FAT (clostridia)
      1. 2 positive - Cl. novyii (bovine)
      2. 1 negative
   D. Salmonella
      1. Salmonella dublin - 3 bovine cases
      2. Salmonella enteritidis - 1 porcine case
   E. Brucella
      1. 2 sets of tissues, representing one herd, were cultured at the Bozeman Laboratory; both were negative.
      2. Random sampling of tissues from three buffalo cows from South Dakota, representing one herd, were cultured at the Bozeman Laboratory; all were negative.
   F. Miscellaneous
      1. Bordetella bronchiseptica - 4 porcine cases
      2. Campylobacter fetus subspecie fetus - bovine fetal abomasal contents

V. Virology
   A. Virus isolation attempts
      1. Bovine - 13 cases; 2 positive BVD and 2 positive IBR
      2. Porcine - 8 cases; all negative
   B. Fluorescent antibody tests
      1. Porcine Parvovirus (fetal lung) -- 1 negative
      2. IBR (fetal kidney) -- 8 negative

VI. Miscellaneous Tests
   A. Electron Microscopy
      1. 9 bovine - 1 coronavirus
      2. 12 canine - 1 parvovirus
      3. 1 porcine

ABORTIONS

The abortion season is approaching; following is a list of samples to submit:

A. Submit the entire fetus if possible, or
B. Submit fresh fetal lung, spleen and kidney plus fixed lung, liver, kidney and spleen, and fetal stomach contents.
C. Stomach contents can be submitted by tying off the abomasum or by aspirating 5-10 ml. into a sterile syringe; (leave in syringe or place in sterile tube).
D. Submit fresh and fixed cotyledons from placenta if available.

Proliferative Pneumonia (AIP) in Calves

The Diagnostic Laboratory has been seeing a syndrome this Fall which is histologically similar to bovine asthma, i.e., atypical interstitial pneumonia (AIP). This condition has also been reported in Iowa and Nebraska where it is called "autumn asthma".

The pneumonia affects 8-10-month-old calves. It is characterized by high fever, high morbidity, variable mortality and unresponsiveness to therapy.

Microscopic examination of the lung reveals a proliferative pneumonia, moderate to large numbers of eosinophils, fibrin alveolar casts and in some cases, bronchiolitis obliterans. Bacterial cultures result in isolation of a variety of microorganisms, mostly nonpathogens.

The reports from Iowa and Nebraska indicate that the etiology is undetermined. Respiratory syncytial virus, Mycoplasma dispar and a variety of bacteria are reported to have been isolated from these cases, but the etiology is unknown. Some believe the condition is caused by a hypersensitivity to some dietary constituent.

Therapy, as reported from veterinarians in the Midwest, consists of removing concentrates from the ration, limiting feed to hay and treatment with aspirin and antihistamines. Antibiotic therapy is also used to handle possible cases of primary bacterial origin. The animals are gradually returned to the normal ration.

Dr. John King, Cornell University pathologist, suggests using atropine in cases of bovine asthma (proliferative pneumonia). He recommends a dose for adult cows of 1 gram/day the first day followed by ½ gram on the following 2-3 days. Whether or not this therapy would be of value in these calf pneumonias is not known.

Little-Known Group Helps Make Meat Safe to Eat

By Jerry Lazarus
Times-Dispatch Staff Writer

The prices at the meat counters of grocery stores may make consumers blanch. But they won't question whether the beef, poultry and pork products came from healthy animals.

"Shoppers can take that for granted, in part, because of the efforts of a little-known, but widely influential Richmond-based group, the United States Animal Health Association.

Out of its headquarters will flow an annual accumulation of scientific reports that will be read in dozens of countries around the world and alerts on potential disease problems that will be heard in every state in the nation.

Disease Control

USAHA has been credited with leadership in helping to eradicate or control a variety of diseases, including hog cholera, cattle tick fever, animal tuberculosis, cow brucellosis, horse venereal disease and foot-and-mouth disease.

That may not seem like much, but to the livestock industry of the country, disease control and prevention are crucial in preventing disruptions in production, smaller supplies and, ultimately, higher meat prices.

Currently, disease costs the livestock and poultry industry $1 billion annually in lost production, and the tab would be higher without significant control efforts, the U.S. Agriculture Department has reported.

Just keeping abreast of foreign diseases can be important. The USDA estimates that if African swine fever ever skips from Haiti to the United States, eradication may cost $1 billion as there is currently no vaccine or other cure.

A new outbreak of foot-and-mouth disease in the United States, as has occurred in Colombia, could cost $250 million to control, the USDA estimates.

Group's Importance

In the area of animal health and disease control, the states are "very interdependent," E. Rominger, director of California's Department of Food and Agriculture, said in a speech last year in trying to define USAHA's importance. "Each state is affected by the animal health programs of other states because there is so much movement of poultry and livestock throughout the nation. . . . We received shipments of livestock and poultry from 47 states and sent shipments to 49 states [for example]."

This underscores the interest California has in seeing that the U.S. Animal Health Association is successful in helping to bring about a higher level of health standards for livestock and poultry," Rominger said.

Through its 28 scientific committees, USAHA addresses every conceivable aspect of animal disease — from residues in meat to pseudorabies and from diseases in wildlife and in foreign countries to feed contamination.

The influence of the USAHA is not grounded on the size of its membership, the wealth in its treasury or the fanciness of its headquarters.

Staff Photo by Amir M. Pishdad

Ella Blanton Started in Office With One Box
No Sign Advertises Association's Offices

The offices of the 1,100-member association tend to reinforce an image of inconspicuousness. Located in the Lawrence Building at Hilliard Road and Lakeside Avenue, USAHA has no outdoor sign advertising itself. Its suite is so skillfully hidden on the second floor that a visitor must hunt for it.

These are the most permanent offices the group has had in its history. Until 13 years ago, the group operated out of a member's home.

"When I started 13 years ago, the office was one box on the floor," said Ella Blanton, assistant executive secretary who runs the Richmond office. She said the organization has moved several times around Richmond while she set up files and coordinated activities.

No Power

USAHA also lacks power. It has no legal standing with the federal government and no authority to regulate or inspect food production or distribution.

Yet the U.S. Health Department generally clears proposals on animal health and disease control with USAHA and usually will not issue any regulations USAHA vetoes. And Congress tends to listen and appropriate funds when USAHA urges money for control of a disease.

What gives USAHA such status is the kind of people who belong — "the best minds in animal health in the country," as one member put it.

Every state has a veterinarian in charge of animal health programs, and each belongs to the association. So do major associations of veterinarians, including researchers and diagnosticians. So do 21 of the major cattle, swine and dairy trade groups and the largest farmer organization, the American Farm Bureau Federation.

The result is a forum where policies and procedures can be reviewed, evaluated, criticized and modified in the battle against disease.

Some idea of the type of influence USAHA wields can be seen in the $150 million federal-state effort to eradicate brucellosus, an infectious disease that makes dairy cows ill and causes undulant fever in humans.

It was USAHA's recommendation in 1976 that led to USDA's proposals for an eradication program and it was a study group of USAHA that developed uniform methods and rules for the program.

And, until a committee of the association agreed, the program did not go into effect.

Dr. Clarence Campbell, Florida's state veterinarian, had put the matter succinctly. "We now have our industry's support in launching an eradication effort. Congress has acted to provide the funding for the initiation of the project; USDA is receptive to our plan of attack; the only deterrent remaining being practical enabling action by USAHA's committee on brucellosis.

Another example occurred earlier this month in Louisville, Ky., at the group's annual convention.

For the past several years, the Humane Society of America's harsh criticism of the modern methods of raising livestock in confined pens as cruel to animals had fallen on deaf ears.

But USAHA agreed that the complaints voiced by the Humane Society should be looked into and secured an agreement from major livestock groups at its convention to sit down with Humane Society representatives to see if some guidelines could not be drawn up to reduce the problem.

"This is a major breakthrough," Mrs. Blanton said. That kind of agreement from livestock groups had not been possible to secure before.

Another example has been USAHA's influence in reducing the use of antibiotics in animal feed. The livestock industry had insisted that animal diseases could be controlled best by the use of low-level antibiotics, but worries grew that humans eating the meat produced might become immune to the medicines.

At first, national proposals were raised to ban antibiotic use. Through USAHA mediation, the livestock industry has cooperated in reducing the levels of antibiotics used while federal agencies have backed away from pushing it to eliminate them.

According to Mrs. Blanton, the USAHA also provides a way for USDA to reach veterinarians with alerts on diseases and to mobilize people to prevent the spread of disease in various regions.

However, the association, while advising USDA, does not always get its way. Sometimes there are quarrels.

"It's like a sibling relationship. We fight with each other, but we couldn't get along without each other," said Tedde Thompson, spokeswoman for USAHA.